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VOL. 70, NO. 19 CHICAGO, ILLINOIS MAY 11, 1918

A SURGEON'S IMPRESSION OF TRIGEMINAL NEURALGIA

BASED ON EXPERIENCES WITH THREE HUNDRED AND TWO CASES

CHARLES H. FRAZIER, M.D.

PHILADELPHIA

There is nothing obscure about trigeminal neuralgia save its origin. The patient has made the diagnosis before the surgeon is consulted, and treatment, to be effective, must include either alcoholic injections or the radical operation. In these few words have been summed up the essential features of this unique lesion of the sensory system.

True trigeminal neuralgia must not be confused with a peripheral neuritis initiated by some infective focus in tooth or sinus, or with the neuritis of toxic or obscure origin. One occasionally hears or reads of the cure of trigeminal neuralgia by the drainage of a sinus, by an intranasal operation or by the removal of an infected tooth. I have never seen or operated on a patient in a case of the major type of trigeminal neuralgia in which there was any reason to suspect any one of these lesions as the exciting cause.

Were I to write on the pathogenesis of the disease, I should describe it as a disease of central, that is, of ganglionic origin, and should hypothecate a lesion in the nature of sclerosis. These are matters, however, of a speculative nature, and I shall not deal with them now. If accepted, they would serve this one useful purpose: Vain attempts to find peripheral lesions as a cause would be abandoned, and patients would be spared many sinus operations and the extraction of a majority of sound teeth in the upper and lower jaws. Most of my patients have been victims of these vicious practices before they came to me for treatment.

The facts presented in these pages are the outcome of my experience with 302 cases of neuralgia of the trigeminal nerve. This includes thirty-nine peripheral operations, ninety-nine alcoholic injections, 130 intracranial operations, and thirty-four cases that were not treated.

The trigeminal neuralgia herein discussed has many typical and characteristic features. To distinguish it from other expressions of pain in the trigeminal distribution, we might call it "surgical" neuralgia. Rarely beginning before the fourth, or more frequently the fifth decade of life, and being only exceptionally bilateral, the pain is first experienced in the second or third division and usually in the terminal distribution of the infra-orbital or the mental nerve. Often two divisions, the maxillary and the mandibular, are eventually involved, and, in a minority of cases, all three divisions. Surgical neuralgia is a disease characterized at first by attacks of a few weeks' duration, with remissions of several months. The attack itself is made up of paroxysms and remissions. The pain is shooting, darting, tearing, being likened sometimes to a red-hot iron boring through the bone. Between the attacks the patient is so absolutely free from pain that his spirits are buoyed up with the false hope that the disease has run its course. But as time goes on, the attacks become more frequent, the remissions shorter, the pain more racking. With few exceptions, surgical neuralgia is not a self-limiting disease. It usually does not die out with age, but gradually beats down the patient's morale until he becomes a supplicant at the surgeon's feet.

PRINCIPLES GOVERNING TREATMENT

It is the treatment of trigeminal neuralgia with which this paper is chiefly concerned. There are no grounds for discussing any method of treatment other than alcoholic injection or the avulsion of the sensory root. The surgeon is spared the necessity of discussing other methods of treatment, since, by the time the patient consults him, all the useless remedies — and they are innumerable — have been tried and have failed, and what reserve of morale or funds the patient may have stored up has, in many instances, been exhausted.

Under what circumstances should the alcoholic injection be recommended, and under what circumstances, the operation? The answer to this question must be qualified by the circumstances themselves. We might divide the patients into two groups, in the first those who have long been sufferers, and in the second, those in an earlier stage of the disease. To the latter group I state the facts baldly. The alcoholic injection is of only transitory effect. Properly given, it will arrest the pain immediately and absolutely, and for an average period of nine months. It is in no sense of the word a permanent cure.

The radical operation assures absolute and permanent relief. When I let the patient choose, after presenting the facts to him, he usually chooses the injection. The injection given, he leaves, pitifully grateful, and encourages himself to believe that this is the end of his suffering. But before the year ends, the pain returns. He fights it out for a while and then returns submissively for another injection. Three or four years pass, with as many injections, and either because the injections are becoming less effective, or — and this is the more potent influence — because his courage is failing, the patient, despairing of permanent relief, will have no more injections and wants the operation. This I should say is a very fair analysis of the psychology of the subject of this disease.

Turning now to the second group of patients in whom the disease is of long standing, that is, from five to ten years, we find the situation very different.

Fig. 1.—Cosmetic results in patient after operation. The incision is entirely within the hair line, hidden from view.

For this type of patient there is only one acceptable treatment, namely, the radical operation. Sometimes he has had his alcoholic injection experience; it has

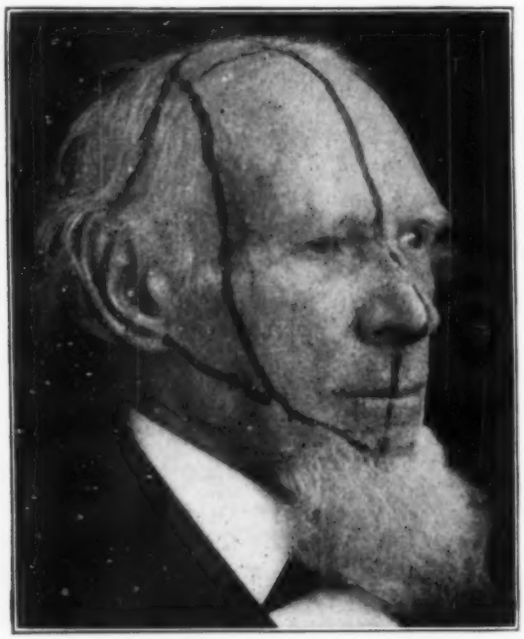

Fig. 2.—First patient on whom the author's operation, "avulsion of the gasserian ganglion," was practiced. The larger area shows the line of regional anesthesia immediately after the operation, and the more restricted area fifteen years later. This contraction of the anesthetic region is not uncommon, although there is never any variation of the line of anesthesia dividing the territory supplied by the trigeminal nerve on one side and that on the other. The nerves of the cervical plexus evidently compensate to a greater or less degree for the loss of sensation in that portion of the trigeminal distribution along the margin of the lower jaw, in front of the ear and in the temporal region, chiefly in the distribution of the mandibular division.

served him in good stead for a while, but it is losing its influence and he dreads another attack. This patient's invariable comment after the operation is, "Why didn't I have the operation in the first instance and be spared the suffering in mind and body and the years of recurrent attacks and alcoholic injections?" The physician-patient is usually more emphatic in his expression than the layman, and yet, in the early days of his attacks, his mind was not prepared to accept the proposal of a radical operation.

I have said that there are only two methods of relieving a patient with trigeminal neuralgia, the alcoholic injection and the radical operation. Like all rules, this has an exception. There are a few cases in which the pain is limited to the distribution of the supra-orbital nerve. Alcoholic injection of this branch is not very effective; peripheral resection of the nerve may with propriety be employed at first. The intracranial operation in the course of time is usually inevitable. With this exception, the peripheral operation has been altogether replaced by the alcoholic injection. There are, to be sure, certain conditions which might make it unwise to recommend the radical or intracranial operation. A patient whose condition

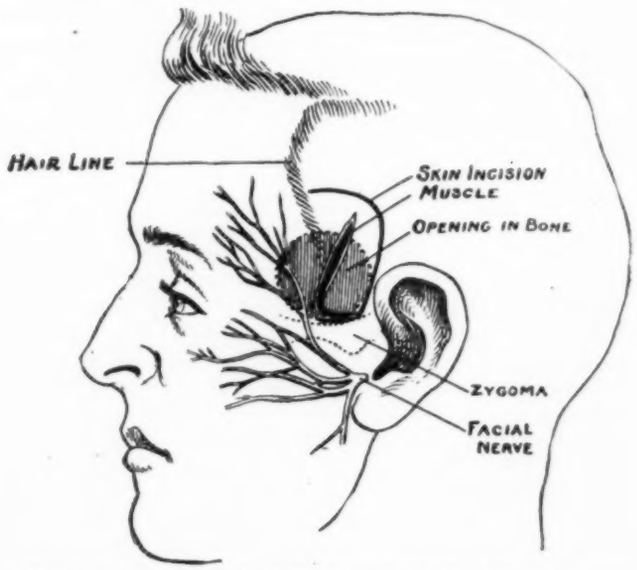

Fig. 3.—Relations of incision to the upper branch of the facial nerve. It is most important that the upper branch of the facial nerve be conserved; otherwise disastrous results might follow from the inability of the patient to close the eyelids. The old-fashioned horseshoe incision assured no protection to this branch.

is manifestly unfit for any radical operation is not a fit subject for an operation on the ganglion, and very old people, near the eighties or still older, whose expectation of life is short, may be made comparatively comfortable with alcoholic injections for their few remaining years and spared the risk or discomfort of operation.

Having stated very briefly the principles governing the treatment of trigeminal neuralgia, I shall make a few commentaries on the subject of alcoholic injections. The untrained physician is no more qualified to employ this nonsurgical method of treatment than he is to perform the operation. In some instances the methods employed by the uninitiated are grotesque, though fortunately harmless, the alcohol being injected directly into the tissues, or other parts in which the patient happens to complain of pain. In other cases, an injection by the inexperienced may leave the patient with a stiff jaw, facial paralysis, oculomotor palsy, or trophic keratitis. In addition to these complications,

the percentage of failures with injection by the inexperienced is high. These passing commentaries are made merely to emphasize the fact that to employ the

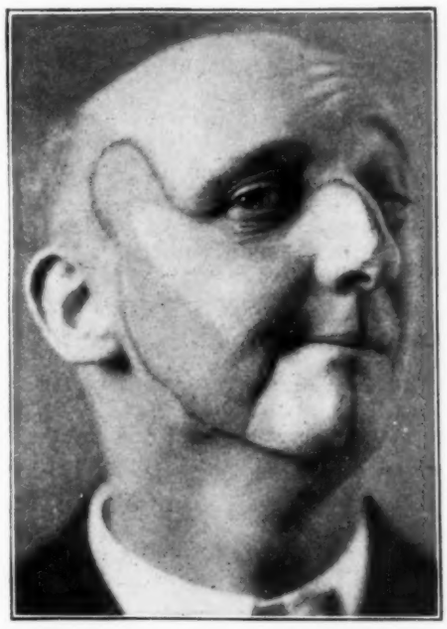

Fig. 4.—Patient with paralysis of the upper branch of the facial nerve from a faulty incision.

injection treatment effectively and safely requires training and experience, by which alone the necessary confidence and skill are acquired.

The methods of injection I shall not describe. Each operator will doubtless develop a technic which he varies in one way or another from time to time. I do, however, want to stress the fact that with a confidence born of experience the injection may be made painless. Frequently, and especially when the patient is unnerved from previous unhappy experiences, the operator may use nitrous oxid or very light chloroform anesthesia, and thus rob the injection of its terrors. My second commentary on the injection treatment conveys a caution as to the injection of the ganglion. The incidence of corneal complications, apart from injuries to the abducens and oculomotor nerve, is not small. Härtel himself, the originator of this method, had corneal complications in one in every four of his first twenty-four cases. This is too high a toll, and to me it makes prohibitive the treatment by injection of the ganglion, except in the few instances in which the operation may be contraindicated.

We now turn to a consideration of the radical operation. The patient should be in the hospital four or five days before the operation, both for observation and examination. Sometimes mistakes may be made in diagnosis. If the patient is suffering from a neurosis, the surgeon will regret having undertaken to relieve a pure neurosis by any surgical procedure. Many years ago, I had two unfortunate experiences, still fresh in my memory, in which the operation performed on a patient suffering from trigeminal neuralgia failed to relieve the pain. One of the cases was so evidently a neurosis that I shall mention the bare facts. Two days after the avulsion of the sensory root, the patient said she had as much pain as ever. I reopened the wound and, with the patient conscious, pulled and tugged with a hemostat on the ganglion without provoking so much as a twinge of pain. Unquestionably, at the first operation the sensory root had been divided, but in the patient's mind the pain persisted.

OPERATIVE PROCEDURE

Since 1901, in almost all my cases I have practiced avulsion of the sensory root, the operation proposed by Spiller as a substitute for gangliectomy, and described by the neurologist von Gehuchten, as the physiologic extirpation of the ganglion. Physiologically sound and technically practical, the avulsion or even the division of the sensory root is in every sense a radical cure. Ether is administered by the drop method. The anesthetization is an important feature. The patient is never deeply narcotized; once the root is divided, the use of ether is discontinued, and before the patient leaves the operating room, consciousness is practically restored.

From the first I have used the sitting posture, and believe it is of advantage for these reasons: Less ether is required, there is less venous bleeding, and the position is convenient for the operator. Without leaning or stooping over the table, he may stand erect, and as the plane of the floor of the skull is on the level with his eye, he may look directly at the structures on which he is working.

The approach to the ganglion is a matter of the utmost importance, and many of the difficulties are obviated if the incision admits of an approach from the middle of the zygoma. From that point to the foramen ovale is the shortest route. The incision is planned with this object in mind, and, of course, must not disturb the branches of the temporal or upper division of the facial nerve. Briefly, the approach is

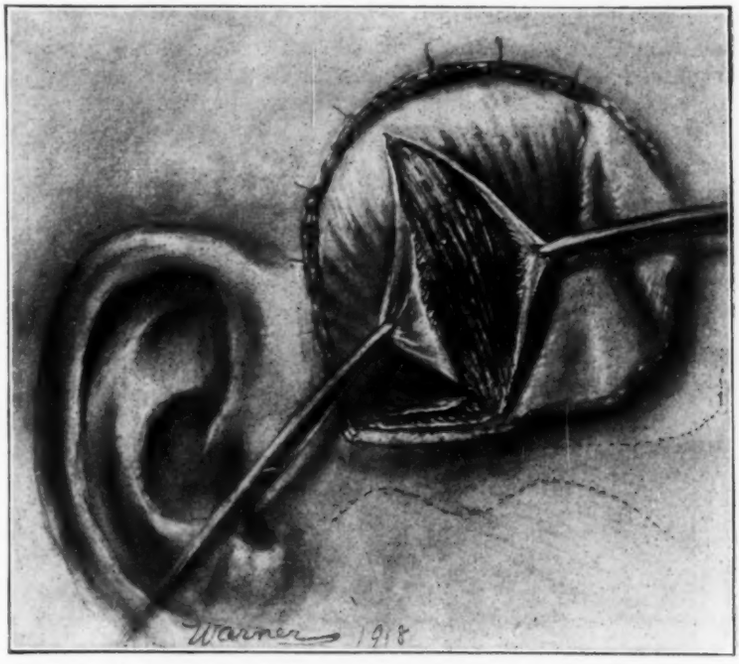

Fig. 5.—Method of approach to the ganglion; cutaneous flap reflected forward. The line of incision in the temporal fascia and muscle is projected so that this musculo-aponeurotic flap may be reflected backward.

by a flap method, with a cutaneous flap reflected forward and a fasciomuscular flap reflected backward. The margin of each flap is sutured to a towel surrounding the wound, so that no retractor and no

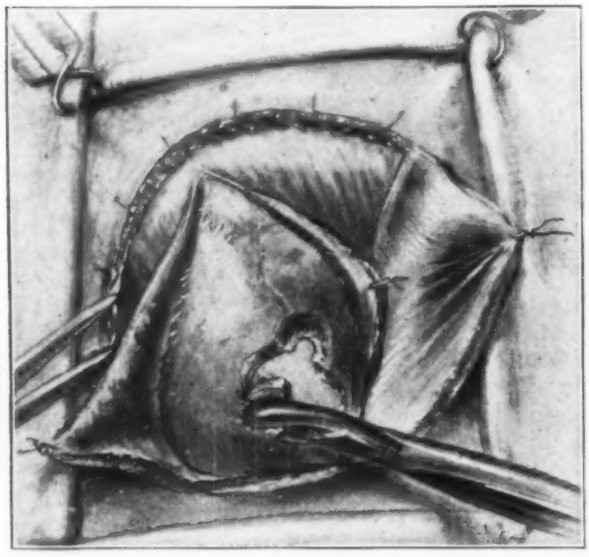

Fig. 6.—Cutaneous flap reflected forward and musculo-aponeurotic flap backward and stitched to towels; opening in skull being enlarged with rongeur forceps.

retraction is required. These are both very practical and important details. The skull is opened with a Hudson drill, and the opening enlarged to that of a fifty-cent piece, the lower margin extending to the base of the skull. This is the end of the first stage, which we may call the approach. The field is now prepared for the second of the three stages of the operation, the intracranial maneuvers, while the third includes the closure of the wound. The dura is separated slowly from the base of the skull as well as

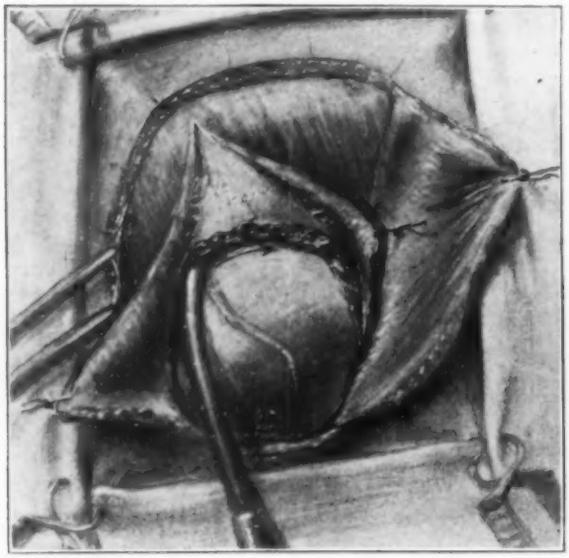

Fig. 7.—Separation of the dura as widely as possible from the margins of the bony opening.

from the temporal bone wide of the bony opening until the foramen spinosum is in sight. This is easily identified. Before the operator divides the middle meningeal artery, which passes through it, he plugs the foramen with cotton, wax or some convenient material. The next objective is the foramen ovale close by. The dural reflexion over the mandibular division, as it enters the foramen, is cut, and by blunt and sharp dissection the posterior third of the superior aspect of the ganglion is stripped of its dura propria until, at the apex of the petrous bone, one easily recognizes the sensory root. The latter should be completely isolated, the inner as well as the outer aspect, and with a special hook the root is picked up and by gentle traction severed from its central attachment. This concludes the second stage and, as the purpose of the operation is now fulfilled, there remains only the closure of the wound, requiring usually four tiers of sutures.

The convalescence after the operation is surprisingly free from discomforts. In the course of a few days, as a rule, the patient leaves his bed, and by the end of the week the wound is healed, the stitches removed, and the period of surgical care and responsibility is over. To avoid corneal complications, the patient is instructed to wear goggles whenever he

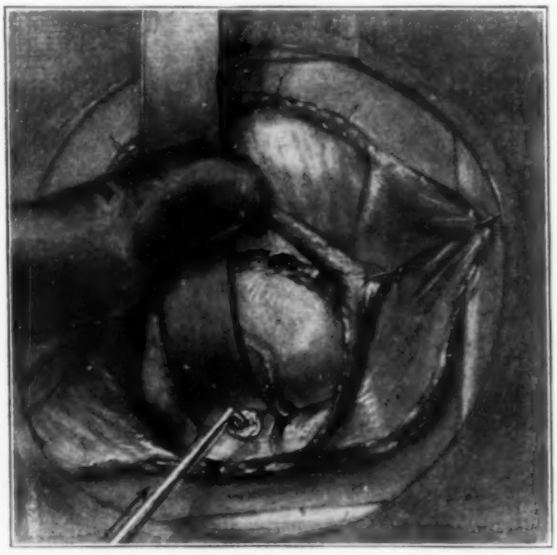

Fig. 8.—Preparation for plugging foramen spinosum with wax on end of special applicator. The foramen spinosum is readily detected by following the groove for the middle meningeal artery on the base of the skull.

leaves the house, throughout a period of at least one year.

The description of the operation has been necessarily brief, and many details and complications have been omitted. As a matter of fact, the operator almost unconsciously varies the technic from time to time, so that I have hesitated to lay down hard and fast rules. Needless to say, some of these operations are much more difficult than others, and considerable resourcefulness is necessary to meet obstacles as they arise. In some instances hemorrhage may be a harassing feature; in others, adhesions of the dura propria to the ganglion, probably the result of previous alcoholic injection or possibly a basilar meningitis of specific origin, may be so dense as to make the exposure of the root difficult; in an exceptional case the root may be so deeply situated that its exposure has been abandoned and the ganglion removed. The operator must always be prepared for any exigency, and to perform the operation with uniform success requires a maximum of patience and resourcefulness. The time

required to expose and divide the root varies from forty-five minutes to more than two hours.

RESULTS

In considering the results, I refer only to the major operation, and will review it from various angles, first as to the permanency of relief, of which there can be no doubt, if the entire root is sectioned. The root cannot regenerate itself. My first operation was performed in 1901, and when last heard of fifteen years after the operation, the patient was free from pain. In all my 121 intracranial operations, I have been called on only once to operate a second time. In this case I found that the inner portion of the root had escaped me. This experience prompts me to warn the operator of the ease with which the inner portion of the root may remain attached to the dura and be overlooked. The fibers of the sheathless root are easily separated one from another, and its inner portion, if adherent to the dura, may be concealed behind the retractor employed to elevate the temporal lobe.

The second result of the operation relates to subjective disturbances. The majority of patients, grateful for the relief afforded, accept the anesthesia and numbness without complaint, soon becoming accustomed to it. To the minority, the numbness continues to be a source of annoyance for some time.

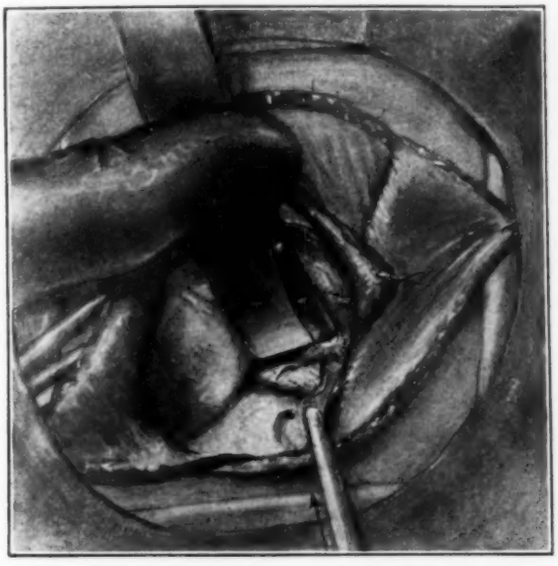

Fig. 9.—The foramen ovale and the mandibular division exposed, and the separation of the dura propria from the surface of the ganglion begun.

The motor disturbance, following inclusion of the motor with the sensory root, involves loss of function in the temporal, masseter and buccinator muscles. In a great many instances I have been fortunate in not being compelled to sacrifice the motor root, and in later years I find an increasing percentage of cases in which the motor root has been saved. There is more or less inconvenience when the function of the buccinator is lost, since food accumulates in the sulcus between the teeth and the cheek because of the anesthesia and the loss of power in the cheek.

These sensory and motor sequelae are of no very great moment, at least when compared with the intense suffering, for the relief of which the operation is performed. The only sequel that might be said to be of serious moment is keratitis. This lesion of trophic origin will occur once in a while. If promptly recognized and properly treated, the corneal ulcer will heal. If utterly neglected, as it was in two of my earlier patients, the eye may have to be sacrificed. In addition to these sequelae, there were four instances in which it was necessary, for periods of several months to several years, to suture the lids at the midpoint. In this type of case, the patient, even with lids sutured, can see to one side or the other, though not directly in front.

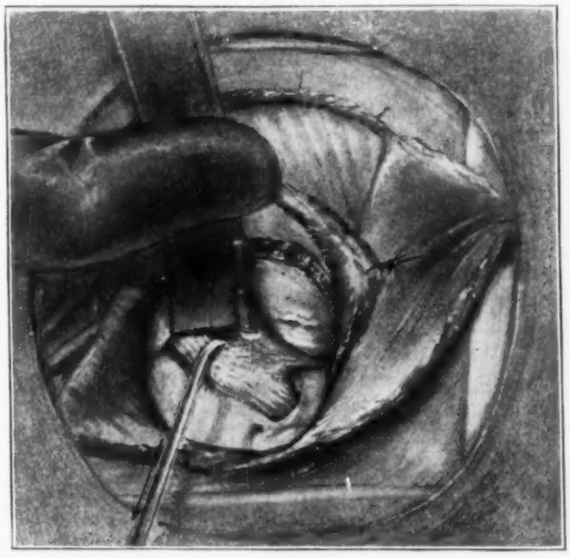

Fig. 10.—The posterior third of the ganglion has been uncovered and the sensory root isolated; it has been encircled with a small, blunt hook preliminary to avulsion.

RISKS OF THE OPERATION

In regard to the risks of the major operation, there is naturally a good deal of apprehension on the part of the patient, but usually much more on the part of the family physician. The operation, of course, has its attendant risks, which we might suppose to be proportionately greater than in other major operations on patients past middle life. The supposition, however,

Fig. 11.—The sensory root has been avulsed and the free end is lying forward on the surface of the ganglion.

has no foundation in fact. There seems to be an extraordinary misconception on the part of the profession as to the present status of the operation on the ganglion or root. It is usually represented as a court of last resort, a sort of kill-or-cure method, as a result of which the patient, if he survives, will be paralyzed on one side of the face and will lose his eyesight. Because of the frame of mind in which the patient consults the surgeon, the former needs some reassuring. In stating the risks of the operation, I shall refer only to my own clinic. Since 1901, there have been, all told, four deaths in 160 operations. Two of these were due to apoplexy, and all of them were among subjects of the 121 intracranial operations. There was one death in 1904, and one in 1910, and there were two in 1912. In a series of eighty-seven consecutive operations there have been no deaths since 1912.

Over other radical operations, such as the removal of the ganglion, the Abbe operation or the Hutchinson operation, avulsion of the sensory root has so many advantages that it should be and is recognized as the operation of choice. It is easier of execution than any other, it subjects adjacent structures to no risk, and it is attended with a smaller percentage of corneal complications and with a lower mortality. On the whole, it is the most satisfactory surgical procedure with which I have had to deal.

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THE CAUSE OF LUMBAR PUNCTURE HEADACHE

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Lumbar puncture headache differs from all others in that, being present when the patient is sitting up, it completely disappears when he lies down. It is throbbing and severe, and felt mostly in the frontal and occipital regions. No drugs give sufficient relief to allow its victim to walk about and attend to his affairs, or even to sit up. The pain comes on quickly when he sits up, being fully present in twenty seconds. It takes about the same length of time to subside when he lies down. This situation usually persists for about seven days with full severity, and then ends somewhat abruptly in the course of twenty-four hours.

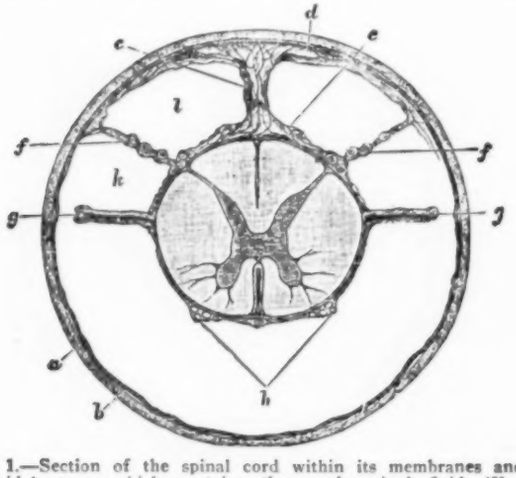

Fig. 1.—Section of the spinal cord within its membranes and subarachnoidal space which contains the cerebrospinal fluid (Key and Retzius, Schäfer's Histology): *a*, dura mater; *b*, arachnoid; *k*, *l*, subarachnoid space.

The only effective treatment is a week's stay in bed with the head low. While in this position the patient is quite comfortable, and there are no clinical signs of trouble present.

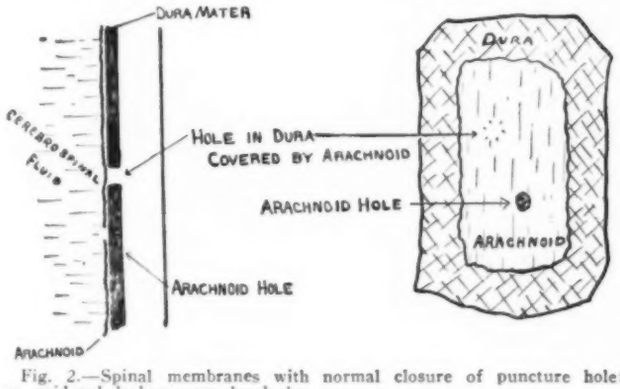

Fig. 2.—Spinal membranes with normal closure of puncture hole: no epidural leakage; no headache.

Regarding causative or influencing factors of the headache, various speculations have been made concerning the importance of such points as the rapidity with which the fluid is withdrawn; the position of the patient during the puncture; the degree of pressure existing in the spinal fluid at the time of puncture; the disease condition of the patient, and his age. All these points are now generally regarded as unimportant.

There are three other points that linger with some observers, and these have been made interesting by discussion. They are: (1) lying flat on the back for twenty-four hours following puncture; (2) performance of puncture when the fluid shows signs of active syphilis, and (3) the amount of fluid withdrawn.

1. It has been our custom at the Neurological Institute to have the patient lie flat on his back for twenty-four hours following lumbar puncture. The small amount of fluid collected for examination must by this time be easily compensated for, and the chances of headache appearing were expected to be considerably lessened. In the spring of 1915, by a series of thirty consecutive cases in which this procedure should be strictly adhered to, I determined to establish its value. Twelve of the thirty developed the typical severe headache.

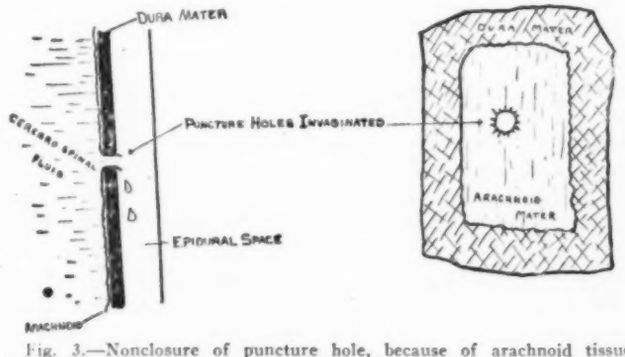

Fig. 3.—Nonclosure of puncture hole, because of arachnoid tissue being pulled through dural opening as needle was withdrawn, resulting in prolonged epidural leakage and lumbar puncture headache.

2. Some information concerning these thirty cases is included here, to illustrate the fallacy of a statement

frequently heard in connection with the second point, regarding the performance of puncture when the fluid shows signs of active syphilis. This statement is to the effect that headache is unlikely to occur in these cases. In the accompanying table only eight spinal fluids may be considered as showing signs of active syphilis, and yet it was in three of these that headache occurred. If this percentage, 37.5, is compared with the 40 per cent. in the whole series, it becomes evident that we may not regard this point as an influencing factor of the headache.

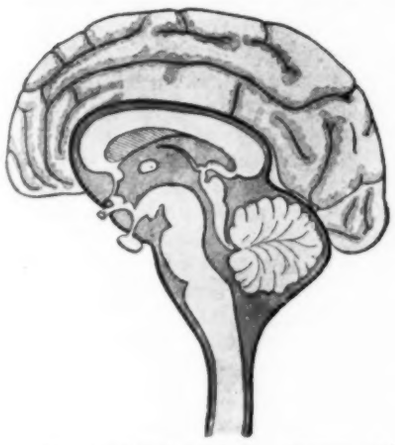

Fig. 4.—Location of the cisternae and canals of the subarachnoidal space (Poirier and Charpy, Howell's Text-Book of Physiology).

3. The third point—the amount of fluid withdrawn—is interesting. The liability for headache to occur when only 2 c.c. of fluid are withdrawn, as readily as when 20 c.c. are withdrawn, has often been demonstrated. This has led some to assume and contend that headache did not depend on loss of cerebrospinal fluid. To support their contention, they have cited the fact that headache is not a frequent complaint after spinal cord operations, although much fluid is usually lost during these operations. The fallacy of this illustration becomes apparent when we recall that after spinal cord operations, the patient is kept on his back for at least two weeks; lumbar puncture headache is not in evidence while a patient is on his back, and the situation responsible for it, whatever it is, is never present, even in the worst cases, for as long as two weeks.

Whereas we are far from having any proof that loss of fluid does not cause lumbar puncture headache, and the consensus of opinion is that in some way it must be responsible, it seems ridiculous that when probably 60 c.c. or more are secreted in a day, an alteration in the intracranial situation sufficient to produce violent headache of seven or more days' duration can be made by the removal of from 2 to 5 c.c.

After a consideration of these facts, it was evident that some new point of view must be obtained in order to solve the problem. A critical analysis of the whole puncture phenomenon brought to light a factor that seems not to have been previously considered. It occurred in answer to the question, After the puncture, is everything within as it was before, with the exception of an absence of a few cubic centimeters of spinal fluid?

To obtain fluid by puncture, the needle must pierce two membranes, the dura and the arachnoid. The dura forms a rigid, tough, fibrous sac, just within the

OCCURRENCE OF HEADACHE IN THIRTY CONSECUTIVE PUNCTURES

No.	Patient	Diagnosis	Spinal Fluid			Headache	No.
			Wass.	Glob.	Cells		
1	B.	Tabes	—	W+	3	No	
2	S.	Paresis	+	+	51	Severe	I
3	G.	Cerebrospinal syphilis	+	+	35	Severe	II
4	C.	Tabes	+	+	35	No	
5	K.	Cerebrospinal syphilis	+	+	20	No	
6	D.	Paresis	+	+	144	No	
7	J.	Lateral sclerosis	—	—	1	No	
8	H.	Chorea	—	—	1	Severe	III
9	G.	Epilepsy	—	—	0	No	
10	K.	Cerebrospinal syphilis	—	—	0	No	
11	C	Pernicious anemia	—	—	0	Severe	IV
12	B.	Multiple sclerosis	—	—	5	Severe	V
13	R.	Cerebrospinal syphilis	—	—	1	Severe	VI
14	R.	Tabes	—	+	2	No	
15	B.	Hysteria	—	—	0	No	
16	P.	Neurasthenia	—	—	0	Severe	VII
17	G.	Old hemiplegia	—	—	4	No	
18	A.	Paresis	+	+	100	Severe	VIII
19	D.	Paresis	+	+	8	No	
20	K.	?	—	—	0	No	
21	R.	Neurasthenia	—	—	1	No	
22	C.	Sciatic neuritis	—	—	3	No	
23	R.	Cerebrospinal syphilis	—	—	2	No	
24	C.	Tabes	—	W+	8	Severe	IX
25	G.	Cerebrospinal syphilis	—	—	23	No	
26	Z.	Wood alcohol	—	W+	0	Severe	X
27	H.	Epilepsy	—	—	0	No	
28	Z.	Chorea	—	—	1	Severe	XI
29	P.	Cerebrospinal syphilis	—	—	0	Severe	XII
30	R.	Paresis	+	+	41	No	

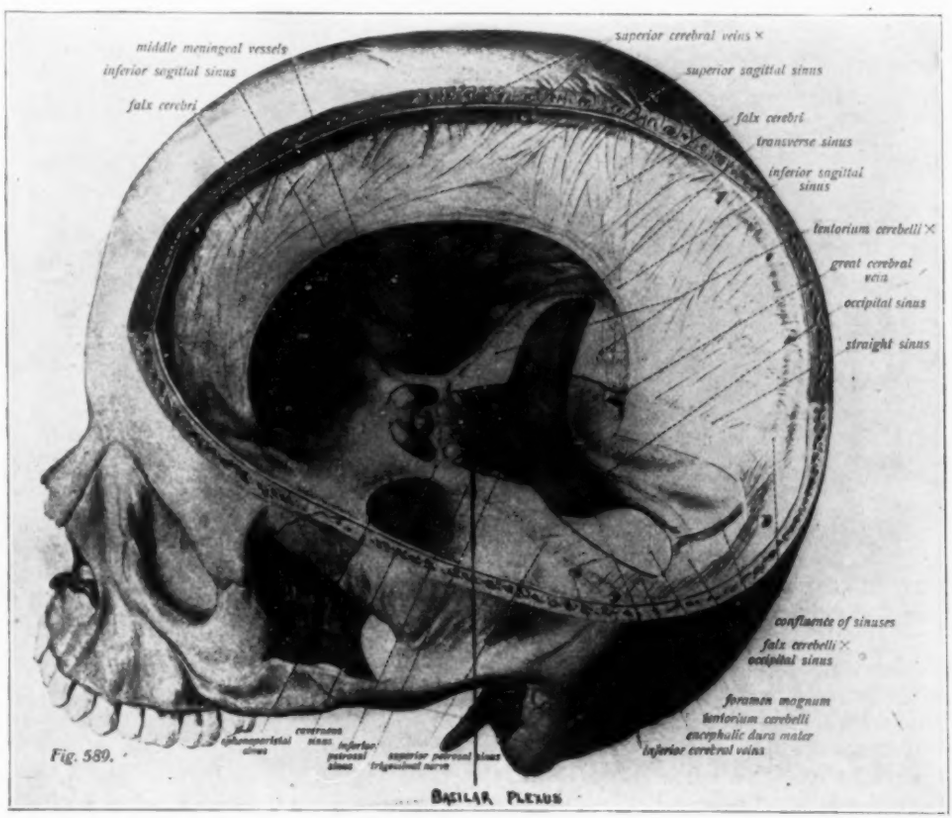

Fig. 5.—Location of basilar plexus of veins (from Sobotta-McMurrich).

vertebral canal. The arachnoid tissue, which is nonvascular and delicate in texture, is full and loose, and it is in close apposition to the dura. The fluid is contained in a space between the arachnoid and the pia mater, the latter membrane closely investing the spinal cord.

We are so accustomed to withdraw blood from a vein without an afterthought as to its closure that I suppose we have assumed the same mental attitude, unconsciously, after lumbar puncture. But in the latter instance we have punctured a fibrous sac distended with fluid — made a hole in a stiff membrane that has no contractile tissue.

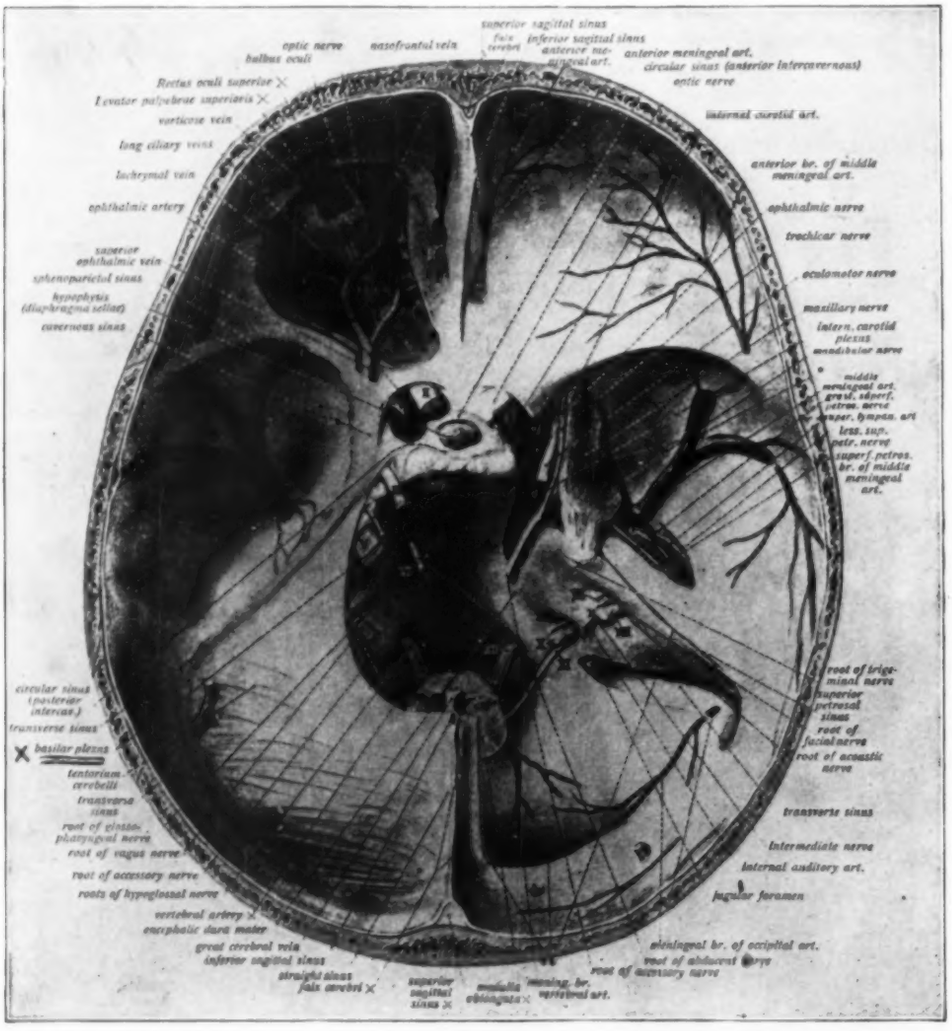

Fig. 6.—Location of basilar plexus on clivus of sphenoid and occipital bones (from Sobotta-McMurrich).

One may be startled by the fact, but can soon convince oneself by a visit to the operating or postmortem room with some needles, that a puncture in this rigid dural membrane usually persists as a clean edged, round hole. The spinal fluid is always under some pressure in its sac, so what is to prevent a continuous leakage into the epidural space in the spinal canal, following the extraction of the needle?

From a study of this point, I have become convinced that closure of the puncture hole usually takes place in the following way: The arachnoid tissue, as it drops from the point of the departing needle, is swept snugly against the dura mater, by the pressure of fluid within. In this way the dural hole is blocked by an intact area of the arachnoid membrane, as the puncture holes, being small, are unlikely to approximate.

If the puncture hole is not blocked, it is because the delicate arachnoid tissue clings around the departing needle, and its hole is pulled into and through the hole in the dura. There it impinges, and this invagination forms a spout or wick for the easy drainage of the whole cerebrospinal fluid sac, and also prevents the rapid healing, which would otherwise occur, of so small a dural opening.

All the fluid secreted by the choroidal glands during seven or eight days, the time seemingly necessary for the hole to close by tissue growth, will be lost by leakage into the epidural space, where it can be absorbed readily, because the epidural space of the spinal canal is comparatively very large, and contains only loose connective tissue, with venous plexuses and lymph channels.

It is evident, in the light of the foregoing facts, that the amount of fluid collected in the test tube will be no indication whatever of the great loss that occurs, when a puncture hole does not become properly occluded when the needle is withdrawn. An instance occurred at the Neurological Institute in January, 1918, which glaringly demonstrates the importance of this occult leakage into the epidural space, and which also indirectly led me first to consider the possibility of such a leakage, and to the explanation presented here.

A lumbar puncture that I was attempting was interrupted by the nervousness and impending syncope of the patient. I was obliged quickly to withdraw the needle, which I believed from my sense of touch to have already pierced the membranes, without collecting or even seeing any fluid. Nevertheless this patient developed a typical lumbar puncture headache which lasted with severity for eight days.

At the time, of course, this was extremely puzzling. Now it is obvious that an apparently dry tap, if the membranes are pierced, may as truly become one of continuous epidural leakage as any other puncture, and it is continuous epidural leakage of cerebrospinal fluid through a patent puncture hole that is the primary and essential causative factor of lumbar puncture headache. Let us see how this factor operates.

The cerebrospinal fluid contained in a closed sac forms a pad for the brain and spinal cord. At the base of the brain this pad becomes a veritable cushion or

water-bed. When the fluid leaks away through a hole in the lower end of this sac, the base of the brain loses its supporting fluid cushion. We may expect this support to remain absent until the puncture hole heals and the fluid again fills and distends the sac sufficiently to reestablish this water-bed. The loss of this supporting basal cushion may be regarded as the secondary causative factor in the production of the headache. How does this produce pain?

A headache, which, let us recall, comes on when a patient sits up, and disappears when he lies down, must obviously be mechanically produced. Pressure of the meninges by the brain weight, against the irregular bony surface of the base of the skull, which would ensue when the patient sits up, in the absence of the basal fluid cushion, might be considered to be sufficient cause for headache. However, another explanation appeals to me as more aptly applying to the situation.

A mechanical accident following spinal puncture has caused sudden death in certain brain tumor and other intracranial conditions accompanied by increased intracranial pressure. The withdrawal of fluid deprived the base of the brain of support, and allowed such forcible descent of the pons on the clivus of the occipital bone that prolapse of the medulla through the foramen magnum occurred. In the average normal case if the supporting fluid cushion is completely lost by continuous leakage through a patent puncture hole, we may expect the pressure of the brain weight transmitted through the pons to the clivus when the patient sits up to be considerable.

The basilar plexus on the clivus of the occipital bone is formed by an extensive anastomosis of flat venous plexuses. It is connected on either side with the cavernous and inferior petrosal sinuses, and with the neighboring blood channels (Sobotta-McMurrich). The other venous channels that drain the cranial cavity at the base are rigid inelastic tubes, and they are thus safe from closure by pressure. The basilar veins differ in this matter of security from closure. They depend on the cushion of cerebrospinal fluid to keep off the pressure of the pons, which is directly above.

When the patient sits up, and the cushion of fluid is absent, the weight of a good part of the brain is suddenly imparted through the pons to this communicating plexus. The blood about to leave the skull is impeded, and forced to turn back and travel by other crowded pathways. The resulting congestion causes a sudden rise of venous pressure.

The sudden onset of severe headache when the patient sits up can now be understood as due to the sudden heightened intracranial pressure due to the rise of pressure in the cerebral veins; its entire relief, when the patient lies down, as due to the fall of pressure when the weight is removed from the veins on the clivus. In the course of a week the puncture hole heals, the fluid is rapidly made in sufficient quantity to fill and distend the entire sac, and the integrity of the brain cushion or water-bed is reestablished. The headache, which was a purely mechanical affair dependent on the loss of that cushion, is gone.

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FURTHER OBSERVATION ON A TRANSPOSED METATARSAL BONE

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AND
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In 1916, we reported[1] an experiment (Experiment 1, Dog 7, New Series) in which the second metatarsal bone of a dog 10 weeks old was transposed into the bed left by the removal of the second metatarsal of the opposite forefoot. As we stated, three months and twenty-six days after the transposition, the bone had not only survived but had actually grown in length and circumference.

Fig. 1.—Right second metatarsal transposed in position formerly occupied by the left, immediately following operation.

Fig. 2.—Three months and twenty-six days after transposition: Bone has not only survived and performed its function, but has actually grown as have the other bones of the foot.

Fig. 3.—Two years after the operation the bone has survived and performed its function, but its growth as shown in Figure 2 did not continue as long as that of the other bones.

A roentgenogram taken recently reveals that the growth of the transplanted bone has not kept pace with the other bones of the foot either in length or circumference, though it has lived and performed its function for two years.

Conclusions have often been drawn from experiments of short duration, when a more prolonged observation would show that there was a handicap because of the transposition that could not be completely overcome. If this experiment had been done on a dog that remained small, or one already fully grown, the point brought out above would have been missed.

1. Brown, W. L., and Brown, C. P.: Experimentally Transplanted and Transposed Whole Metatarsal Bones, THE JOURNAL A. M. A., Oct. 21, 1916, p. 1200.

OPERATIVE TREATMENT IN SELECTED CASES OF CHRONIC PERIPHERAL FACIAL PARALYSIS *

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Not only is the condition of facial paralysis, especially of the peripheral type, a most noticeable deformity, but the resulting contractures in chronic cases frequently impair the speech, mastication and deglutition; inability to close the homolateral eye permits a chronic conjunctivitis to result, and if palpebral contractures occur, then an eversion of the eyelids is a common sequela. In addition to these definite objective impairments resulting from persistent facial paralysis, it should be remembered that the subjective reaction of such a deformity on the patient is very marked—so much so that few patients having a complete facial paralysis persisting over a period of two years and longer show a normal reaction emotionally. They are easily depressed, and they limit their lives more and more to one of seclusion; particularly is this true of women.

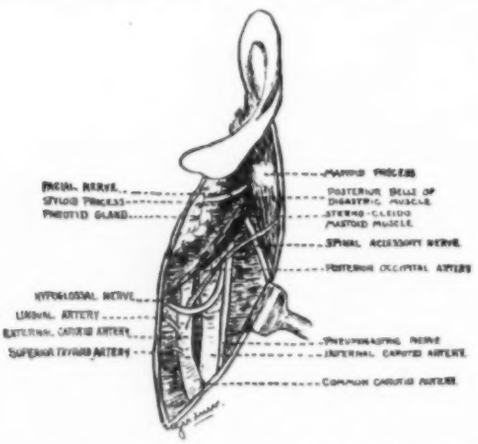

Fig. 1.—Anatomic relation of operative area (schematic), showing the accessibility of the spinal accessory and hypoglossal nerves for the facial anastomosis.

Facial paralysis may be considered of the peripheral type when the lesion exists at the facial nucleus in the pons or at any point along the course of the facial nerve from this nucleus down to its bifurcation into the facial branches within the posterior border of the parotid gland; naturally, a lesion of one of these facial branches distal to this main division would produce a paralysis of the muscles supplied by the individual branch affected, and I shall not consider in this paper the treatment of these individual branch lesions, as it is the same as the treatment of any peripheral nerve injury.

Lesions of the facial or seventh cranial nerve producing a peripheral facial paralysis occur more frequently than in any other single nerve; the paralysis results in almost three fourths of the patients from a so-called "chill" of the facial nerve; in fact, very little is known as to the real cause of this more common form of peripheral facial paralysis, or Bell's palsy—whether it is an infective process or a simple nerve degeneration or their combination.

The next most common cause of peripheral facial paralysis is otitic disease. Any suppurative process of the middle ear with or without a definite involvement of the mastoid cells may produce an ipsolateral facial paralysis either by direct extension and compression of the facial nerve or by the resulting edematous swelling of the nerve itself within a narrow aqueduct of Fallopius. In this connection I should like to mention the infrequency at present of peripheral facial paralysis following mastoid operations. It still occurs, but the paralysis is rarely a permanent one, since it is due more to an operative edema of the facial nerve than to its complete severance and destruction—a fairly common operative complication as recent as fifteen years ago. This advance is undoubtedly due not only to an improved technic and greater operative care and respect for the facial nerve in mastoid operations, but chiefly to the recognition by the medical profession (and also by the laity) that the operation for mastoid disease is one for a specialist and not the general surgeon.

Another frequent cause of peripheral facial paralysis is fracture of the base of the skull; in these patients, the fracture has extended into the petrous bone either at the internal auditory meatus or more frequently through the aqueduct of Fallopius. The paralysis, however, may be only a temporary one in many cases, due possibly to merely an edema of the facial nerve rather than an actual tear or severe bony compression of it; naturally, in the latter cases the paralysis is a permanent one. During the past five years in a series of almost 500 acute brain injuries[1] with or without a demonstrated fracture of the skull, I have observed a complete *peripheral* facial paralysis in but nine patients, and in only three of these patients was the paralysis a complete and permanent one.

A much less frequent cause of peripheral facial paralysis is to be found in tumors gradually compressing the facial nerve itself (and thus producing a facial paralysis of slow onset), particularly in those portions between the facial nucleus in the pons and the internal auditory meatus. Then again, after the nerve has emerged from the stylomastoid foramen to the point of bifurcation in the posterior portion of the parotid gland; the latter tumors are usually palpable, and thus an early removal by careful dissection of the benign tumors makes a permanent relief possible.

There are numerous other causes of peripheral facial paralysis of the infective and toxic types: basilar meningitis and occasionally syphilis; traumatism during difficult labors and also a bilateral paralysis may occur following many causes; besides, the various war wounds and gunshot injuries are becoming a very common cause of facial paralysis. I shall consider in this paper, however, only the operative treatment in selected cases of chronic peripheral facial paralysis that have persisted over a period of one year in spite of all expectant medical treatment, such as massage, electricity, external heat, and medicine. If, after such a period of one year of intensive rational treatment of a patient having the condition of complete peripheral facial paralysis due to a so-called "chill" or Bell's palsy, otitic complications, fractures of the skull and

* On account of its length, this paper could not be published in full in THE JOURNAL, reprints of the complete paper, however, will be mailed by the author on request.

* A detailed report of the operative patients will be made in a later paper; their improvement has been both rapid and marked, and it is believed that this is due chiefly to the method of operation described in this paper, which is merely a preliminary report.

1. Sharpe, William: Observations in the Diagnosis and Treatment of Brain Injuries in Adults, THE JOURNAL A. M. A., May 13, 1916, pp. 1536-1540.

certain other causes, the paralysis remains practically a complete one for at least the preceding six months, then I feel that such a patient should be given the opportunity of obtaining a definite improvement by an operative procedure of facial nerve anastomosis.

If it is possible (and it rarely is) to decide immediately and without a question of a doubt that the facial nerve has been irreparably damaged, either through being completely severed or permanently impaired by bony compression or an infective process, then undoubtedly the ideal time for the operation would be just as early as the complete permanent damage to the facial nerve could be ascertained. Not only would a perfect nerve anastomosis occur much more easily, but the muscular atrophy and contractures would thereby be avoided; at times, this early operation is possible following a severance of the facial nerve during a mastoid operation or an operation on the neck injuring the facial nerve peripherally to its emergence at the stylomastoid foramen.

There have been several operations devised to improve the condition of complete and persistent peripheral facial paralysis. The object of each of these operations has been to restore volitional and emotional control to the paralyzed facial muscles by making possible the transmission of efferent motor impulses from the central portion of an adjacent motor nerve to the peripheral impaired portion of the facial nerve. That is, in order to "bridge" and thus circumvent the obstructive lesion of the facial nerve, which cannot itself be treated locally by any means now known, and thus eliminate functionally that impaired portion of the nerve, it is the purpose of the operation to connect the cerebral motor cortex, contiguous with the cerebral motor cortex of the facial nerve, to the peripheral portion of the facial nerve itself by means of a peripheral nerve anastomosis. Anatomically, there are only two motor nerves, adjacent to the facial nerve after its emergence from the stylomastoid foramen, that can be used for this anastomosis; these nerves are the spinal accessory and the hypoglossal, as is clearly shown in Figure 1 their close relationship with the facial nerve makes the various modifications of peripheral nerve anastomosis a practical and a comparatively easy one. The glossopharyngeal nerve is too deeply situated and therefore technically inaccessible for the facial anastomosis.

During the past fifteen years a number of these facial anastomoses and their modifications have been described; those by Ballance, Frazier and Taylor may be mentioned. The results have been encouraging, and yet there has not been a single patient reported in whom the end-result has been a complete return of both volitional and emotional control of the formerly paralyzed facial muscles. In some cases, I feel that this has been due to the operative method of anastomosis, and it is my purpose herein to advocate a certain method of anastomosis in the belief that it may offer a greater ultimate improvement than can be obtained by the operations that have been used.

In order to obtain all of the advantages of an end-to-end anastomosis and at the same time to avoid as much as possible the impairment of paralysis, etc., following the sectioning of an entire spinal accessory or hypoglossal nerve, the method of anastomosis described below has been performed on seven patients with most encouraging results; a period, however, of at least five years after the operation should elapse before a definite opinion of the results can accurately be obtained. From the literature, it would seem that each method of anastomosis produces a definite improvement of the facial paralysis, and yet there has been no case reported in which the improvement has been all that could be desired; it is to be hoped, therefore, that a method may be devised that will produce the greatest ultimate improvement, if not a complete cure.

In the operation to be described, only one half of the hypoglossal nerve is anastomosed to the entire peripheral cut end of the facial nerve; in this manner, not only is the easier and more rapid nerve regeneration of an end-to-end anastomosis obtained, but the hypoglossal nerve remains in continuity and regains its complete function within a period of two months. The latter is made possible by cutting several of the intact nerve fibers of the remaining half of the hypoglossal nerve and approximating them by a single suture to the peripheral cut portion of the hypoglossal nerve (Fig. 2 *B*). Thus it is possible to use for the end-to-end anastomosis more than one third of the hypoglossal nerve, and yet only a temporary weakness of one half of the tongue occurs, and no atrophy of its muscles results. I feel, therefore, that this is a distinct advance over the methods formerly used in that all of the advantages of an end-to-end anastomosis are obtained and yet none of the permanent disadvantages of hypoglossal impairment.

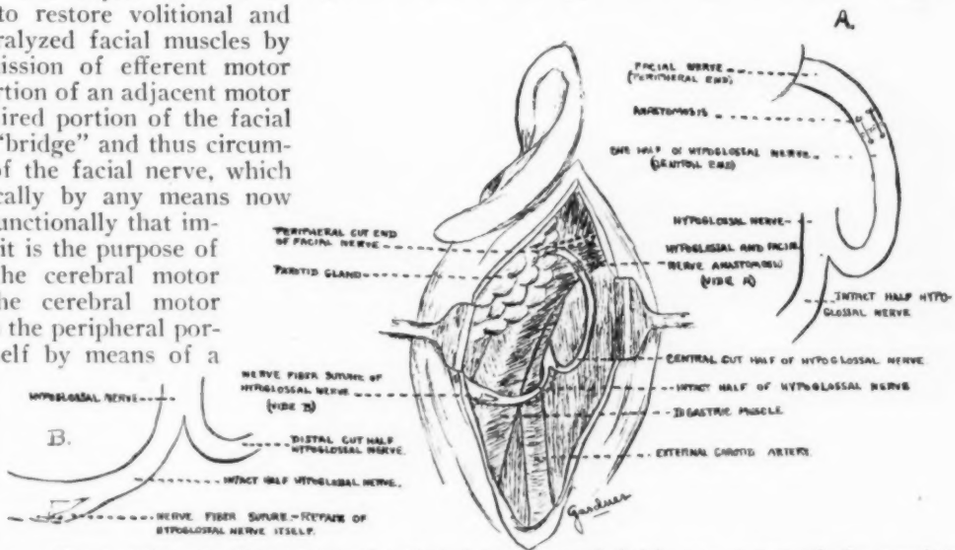
A.
FACIAL NERVE (PERIPHERAL END)
ANASTOMOSIS
ONE HALF OF HYPOGLOSSAL NERVE (CENTRAL END)
HYPOGLOSSAL NERVE
HYPOGLOSSAL AND FACIAL NERVE ANASTOMOSIS (SIDE A)
INTACT HALF HYPOGLOSSAL NERVE
PERIPHERAL CUT END OF FACIAL NERVE
PAROTID GLAND
CENTRAL CUT HALF OF HYPOGLOSSAL NERVE
INTACT HALF OF HYPOGLOSSAL NERVE
DIGASTRIC MUSCLE
EXTERNAL CAROTID ARTERY
NERVE FIBER SUTURE OF HYPOGLOSSAL NERVE (SIDE B)
B.
HYPOGLOSSAL NERVE
DISTAL CUT HALF HYPOGLOSSAL NERVE
INTACT HALF HYPOGLOSSAL NERVE
NERVE FIBER SUTURE—REPAIR OF HYPOGLOSSAL NERVE ITSELF

Fig. 2.—Schematic representation of author's hypoglossal and facial nerve anastomosis for complete chronic peripheral facial paralysis; *A*, enlarged view of anastomosis of central half of hypoglossal nerve to peripheral cut end of entire facial nerve; *B*, enlarged view of nerve fiber suture of hypoglossal nerve itself.

TECHNIC OF OPERATION

The operation itself is not a difficult one technically. By means of a small curved incision just posterior to the angle of the lower jaw, and anterior to the mastoid process (the ear lobe being held forward), the facial nerve is exposed as it crosses the styloid process externally; the nerve itself is now severed as close to the stylomastoid foramen as is possible so that a peripheral portion of at least one-half inch is obtained for anastomosis. The facial nerve should always be exposed first, as it has been reported absent or rather, "not

found" in several patients so that an anastomosis was naturally not possible; it is wise, therefore, to expose it before dissecting and sectioning the hypoglossal nerve. Possibly the best landmark to use in finding the hypoglossal nerve is to expose the external carotid artery; just below its occipital branch, the hypoglossal nerve curves forward and to the outer side of the main trunk of the external carotid artery to lie between the posterior belly of the digastric muscle externally and the hyoglossus muscle internally. By blunt dissection, the hypoglossal nerve can be easily exposed forward so that a portion of at least 1 inch, and still better, 1½ inches, is obtained for the anastomosis with the facial nerve. The entire hypoglossal nerve, within its sheath, and being held by its sheath, is now incised longitudinally in its midline by a small, thin-bladed scalpel, and its nerve fibers are now separated in the midline longitudinally for a distance of 1 inch at least; at the distal part of the bisection, the outer half is now severed and its central cut end is brought backward and upward to be sutured, sheath to sheath as much as possible, to the entire peripheral cut end of the facial nerve; small black silk sutures (waxed) on French needles are very satisfactory (Fig. 2 *A*).

A rather interesting observation has been made in several of the patients on whom the operation had been performed. In six patients, when the impaired facial nerve was divided at the stylomastoid foramen, the facial muscles supplied by it twitched from the mere mechanical stimulation to its distal end, and this could be repeated by merely pinching the distal end of the nerve even in those patients in whom a faradic current on the skin failed to elicit a motor response. In four of these patients, however, a faradic current applied directly to the distal cut end of the nerve also caused a mild muscular twitch, though not as strong as when the distal cut end was pinched; that is, it would seem, in these patients, at least, that a mechanical stimulus was more powerful than the electrical stimulus. Also, although a reaction of degeneration had been obtained in each of these patients, it is possible that there had been some nerve regeneration distal to the lesion; these findings, therefore, would tend to confirm the original observations of Ballance and Stewart regarding nerve regeneration in the distal portion of an impaired nerve. In only two patients, however, did the motor power return before the faradic excitability appeared. The fact, also, that in these patients, immediately after operation, the flaccid paralysis of the facial muscles was temporarily even more flaccid, and if contractures were present then these contractures were lessened and the flaccidity increased, also tends to confirm the belief that peripheral nerves regenerate not merely by means of a central to peripheral growth, but also by a peripheral repair itself independent of the central outgrowth.

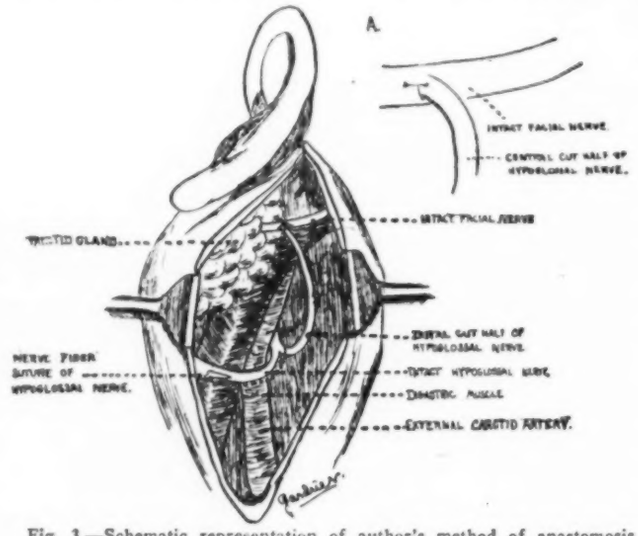

Fig. 3.—Schematic representation of author's method of anastomosis of half of hypoglossal nerve to intact facial nerve for incomplete chronic peripheral facial paralysis: *A*, right angled slit for insertion of central cut half of hypoglossal nerve into intact facial nerve.

In order, however, for the distal portion of the nerve to fulfil its complete function, it must be joined to the central portion of the nerve to make possible the central outgrowth and thus complete the entire nerve regeneration and function.

No fat, muscle, blood vessels, Cargyle membrane or foreign material is placed about the anastomosis in the belief that adhesions and fibrous tissues will thus be avoided. If care is used to avoid the soiling with blood of the tissues and the nerve ends themselves so that the operative field is a "dry" one, there is no need of wrapping the nerve ends with various tissues to prevent the formation of adhesions and fibrous tissues. As in all nerve work, if there is little or very gentle handling of the nerves themselves and the adjacent tissues, and, very important, a most careful hemostasis, then there will be little danger of adhesions and fibrous tissue forming. In operations on the brachial plexus in children having a paralysis of the arm following an injury to these nerves at birth (the typical condition of brachial birth palsy),[2] it has been demonstrated that there is no need to surround the nerve anastomosis with various tissue and membranes; I believe in many instances that such inserted tissues merely add to the amount of fibrous tissue to be formed; particularly is this true when fat, muscles and blood vessels are used to surround the anastomosis. A possible fibrous "choking" of the nerves by these tissues themselves must also be feared.

After the facial anastomosis has been completed, the small scalpel is again used to separate longitudinally and to cut several nerve fibers of the remaining half of the hypoglossal nerve in the same plane of the former incision (Fig. 2 *B*). The central cut end of these fibers is now approximated to the peripheral cut portion of the outer half of the hypoglossal nerve by a single suture through their sheaths; in this manner, the impairment of the hypoglossal nerve is only a temporary one, the weakness of one half of the tongue persisting not longer than eight weeks, and in two of my patients only for two weeks. It would seem, therefore, theoretically and in this one nerve at least, that the immediate anastomosis of the cut ends of the same nerve, even if a part of that nerve has been removed, occurs very quickly and the entire function is easily regained; especially is this so if several of the more medullary fibers are sutured to the more peripheral ones. Naturally, just as with the facial anastomosis, no body or animal tissues are wrapped about this nerve suture. The operative area is now gently washed with warm physiologic sodium chlorid solution so that if a small amount of blood has soiled the adjacent tissues it will be removed. The wound itself is not sutured until all oozing of blood has ceased after the retractors

2. Sharpe, William: The Operative Treatment of Brachial Plexus Paralysis, THE JOURNAL A. M. A., March 18, 1916, pp. 876-881.

have been removed; warm saline compresses usually suffice. Several sutures are used to close the incision, but not tightly, so that if any oozing of blood occurs while the patient is recovering from the effects of the antesthesia, then it can escape from the operative area and thus lessen the danger of the formation of adhesions and fibrous tissue.

The postoperative care is practically the same as with other operations on the neck. As soon as the incision has healed—a period of from ten days to two weeks after the operation—external heat should be applied to the impaired facial muscles, and galvanism and gentle massage used, in fact, treatment similar to that given before the operation, so that within a month after the anastomosis the same treatment as before the operation should be possible. It is interesting and instructive to observe, after the first week following the operation, an almost daily improvement in the use of the tongue. As the motor power begins to return to the paralyzed facial muscles (usually within four months), galvanism should be replaced by faradism in the treatment.

A modification of this operation might be used in selected patients having only *partial* peripheral facial paralysis, in whom the reaction of degeneration is not present and yet the paralysis is of such a character, owing to the deformity, contractures, conjunctivitis and other complications, that an attempt might be advisable to improve the condition by an operation. In these patients, after the facial nerve is exposed but *not cut*, the central cut portion of one half of the hypoglossal nerve (just as in the preceding operation) could be inserted into the *intact* facial nerve through a small *right-angled* slit of its sheath and adjacent nerve fibers—an incision just large enough to admit the central cut end of the hypoglossal nerve by means of a single black silk suture (Fig. 3 *A*). The operation would be a simple one technically, and no damage to either the hypoglossal or facial nerve would result. A right-angled cut is made in order to sever completely several of the nerve fibers of the facial nerve and thus facilitate and insure a more possible anastomosis with the fibers of the hypoglossal nerve; the mere insertion of the end of a nerve (in this case, the hypoglossal nerve) into a small *longitudinal* slit of another nerve (in this case, the facial nerve) without cutting any of the fibers of the latter nerve does not seem to be a practical method of anastomosis; just why uncut and intact nerve fiber bundles (if only a small longitudinal slit into the facial nerve is made) should be stimulated to grow beyond their intact sheaths into the cut ends of the fibers of the hypoglossal nerve does not seem logical or even theoretical, and yet a definite improvement has been reported following this method of anastomosis. For these reasons, a right-angled slit is made so that several fibers, at least, of the facial nerve will be completely severed and thus their union with the sectioned fibers of the hypoglossal nerve will be made more possible and more complete. Even if no marked improvement of the facial paralysis results from this procedure, at least no harm has been done: from the reported cases of similar grafting of other nerves, however, a definite improvement has been obtained. It would seem wiser, therefore, in the selected patients of only partial facial paralysis to attempt this method of anastomosis first, and then if no marked improvement follows within a year, the former method of facial hypoglossal anastomosis might be considered.

On account of the world war during the past three years, the number of traumatic cases of peripheral facial paralysis has greatly increased. Fortunately, however, in the majority of these facial paralyses the nerve lesion is external to the stylomastoid foramen, so that a close anastomosis of the cut ends of the facial nerve is possible in many of the patients following stab wounds and similar injuries; and, if the ends of the divided facial nerve cannot be approximated more closely than one-half inch, as in shrapnel and gunshot wounds, an anastomosis of these ends is still possible by merely connecting them by two, or better, three black silk sutures; it is then possible for the central end of the facial nerve to grow along the sutures and thus effect a union with the peripheral cut end. I have one patient in whom this occurred after nineteen months had elapsed following the operation. Naturally, all fibrous tissue about the nerve ends must be removed, and the ends themselves peeled back until normal nerve bundles are distinctly visible—otherwise no anastomosis would be possible; as in all nerve work, a most rigid hemostasis is essential. Those other patients having a peripheral facial nerve lesion in the petrous portion of the temporal bone due to a fracture of the skull, gunshot injury and similar wounds should be treated according to the permanence of the facial impairment; if it can be definitely established that the nerve is completely severed or irreparably damaged, then an early facial-hypoglossal anastomosis is advisable. But no patient should be operated on, no matter how complete the facial paralysis, unless it is definitely ascertained that the facial nerve is permanently injured, or a period of intensive treatment of at least one year following the injury has elapsed without a definite improvement of the condition.

20 West Fiftieth Street.

A COMPARISON BETWEEN CLINICAL AND ROENTGEN FINDINGS IN DISEASES OF THE CHEST

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The difficulties of interpreting physical signs in the chests of infants and little children are sometimes very great. As the questions of diagnosis; prognosis and treatment are all involved, any methods of throwing light on doubtful problems should be carefully studied. Investigations made by various observers on the interpretation of roentgenograms of the chest contents have already given promising results. The present study is in the same line of inquiry, namely, how much or how little can be learned from roentgenograms, and how the latter can fortify or throw doubt on the diagnosis made from physical examinations.

THE HEART

In the growing child, the heart not infrequently affords ground for much difference of opinion in diagnosis and consequently in treatment. The muscle is soft and subject to dilatation in disease or even from overexertion. The adventitious sounds are various and not always easy to interpret. A study of the shadow formed by the contour of the heart may help to decide whether murmurs are hemic, muscular or valvular. It is often hard to interpret properly the heart shadow in little children owing to the difficulty

of keeping them quiet during exposure. A twisting of the body may cause such a rotation of the chest as to exaggerate a heart shadow in any direction. Before reaching conclusions, one must thus study the anatomic points to be sure that the chest was kept straight during exposure.

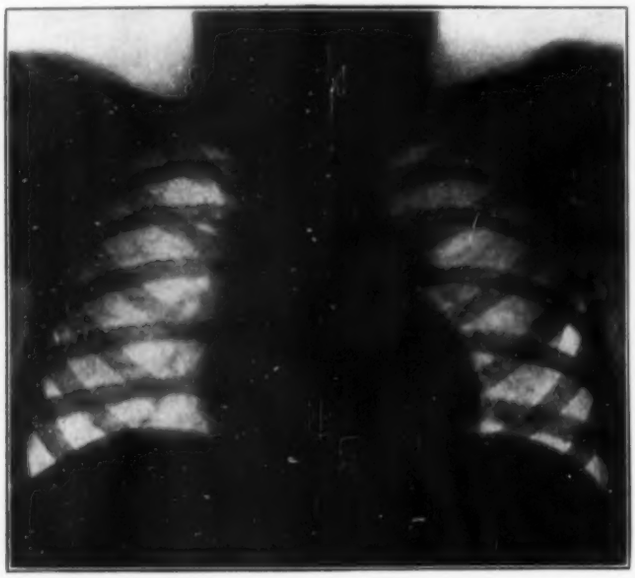

Fig. 1 (Case 1).—Normal heart; slight infiltration of hilum.

A comparison was made in fifteen cardiac cases between the roentgen-ray findings and the results of physical examinations. Seven of the cases showed practical agreement, one partly agreed, and seven failed to correspond in the conclusions reached by

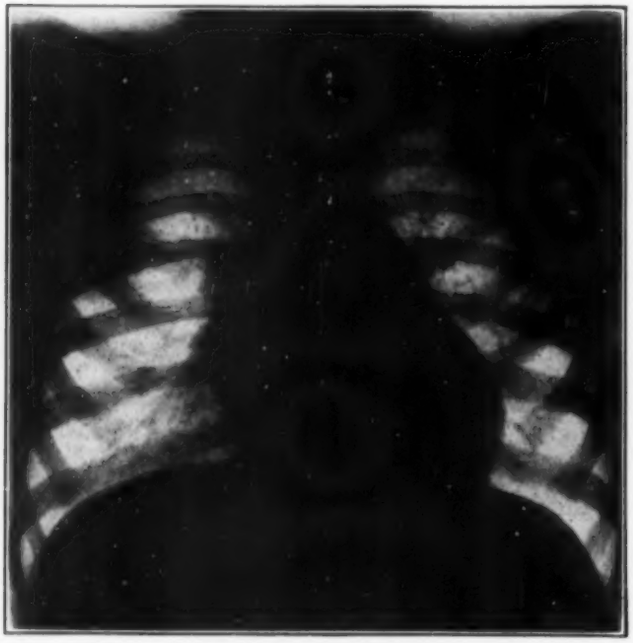

Fig. 2 (Case 2).—Heart spherical, with accentuation of left auricular and pulmonic curves and aortic recession, pointing to an early mitral lesion.

these two methods of examination. The following will serve as types of the comparisons:

CASE 1.—J. L., a boy, aged 5 years, with osteomyelitis, was found both by physical and roentgen examination to have a normal heart. The left auricular and pulmonic curves were shown to be placed well within a line drawn from the most prominent part of the aortic arch to the outer curve of the

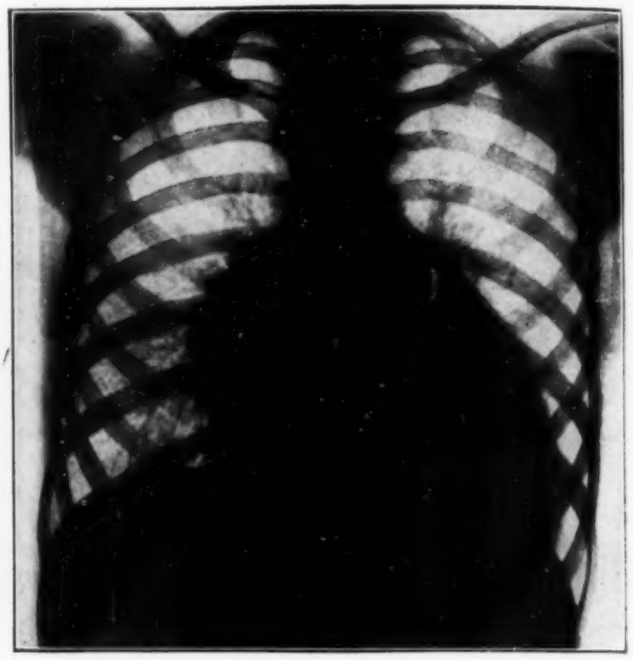

Fig. 3 (Case 3).—Marked enlargement, exemplifying the severest type of mitral disease.

left ventricle. The roentgenogram revealed also a slight hilum infiltration.

The interpreter of the roentgenogram of the heart considers that an early mitral lesion causes an accentuation of the normal left auricular and pulmonic curves, producing a spherical or rounded appearance.

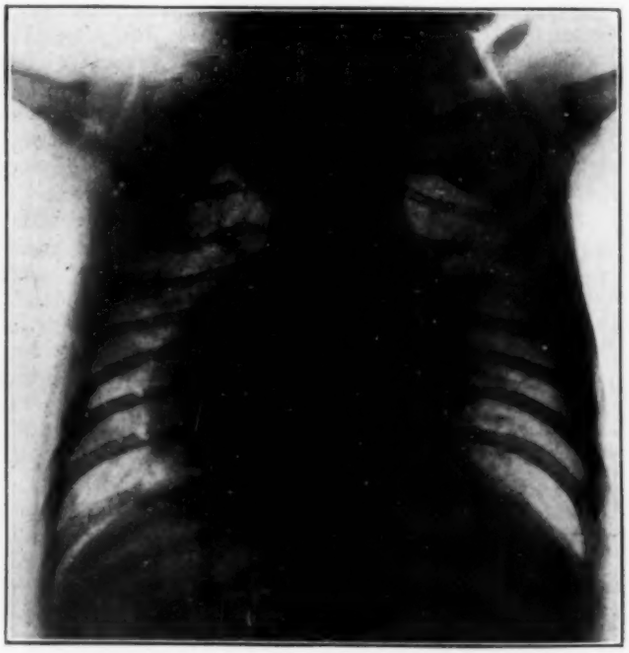

Fig. 4 (Case 4).—Increase of heart shadow to right; enlargement of right auricle, suggesting a patent foramen ovale; enlarged thymus.

CASE 2.—L. S., a boy, aged 9 years, had had rheumatic pains for the past six months. The teeth were bad, but the tonsils were not diseased. Several clinical examinations by three observers on different days showed a difference of opinion as to the condition of the heart. One found a

roughened presystolic sound, another reported a functional murmur, and a third considered the heart to be normal. An electrocardiogram revealed nothing abnormal. The roentgenogram, however, gave the heart a spherical appearance

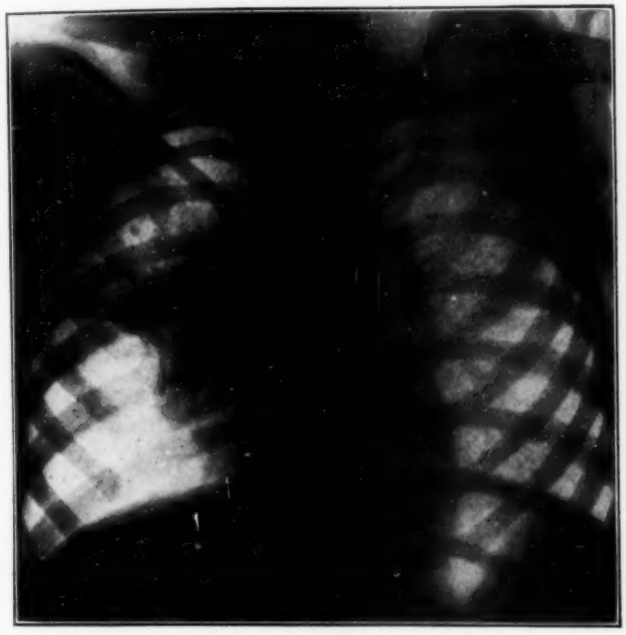

Fig. 5 (Case 5).—Increased intensity and irregularity in outline in the hilum, especially on the right side; enlarged nodes and calcific deposits in the hilum.

with accentuation of the left auricular and pulmonic curves and aortic recession, pointing to an early mitral lesion.

CASE 3.—E. W., aged 13 years, who had mitral insufficiency with hypertrophy, showed a very marked enlargement on the roentgenogram, the shadow exemplifying the severest type

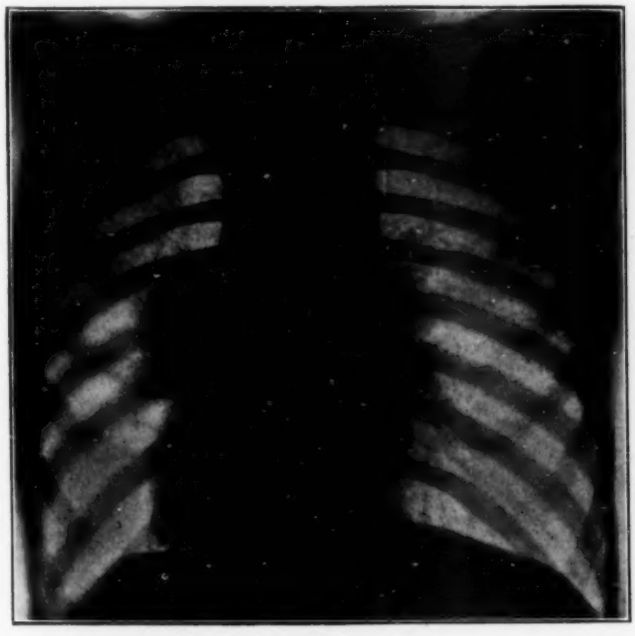

Fig. 6 (Case 6).—Marked infiltration of the hilum on both sides, with enlarged nodes and calcific deposits.

of mitral disease. There was a bulging out of the auricular and pulmonic curves.

The following case was considered congenital:

CASE 4.—I. G., aged 3 months, a Mongolian idiot, was not cyanotic. There had been a cough for eight weeks. The heart was enlarged to the right. There was a systolic murmur over the base. There was dulness over the upper part of the sternum. The roentgen ray revealed the heart shadow increased to the right and enlargement of the right auricle suggesting a patent foramen ovale. The thymus was enlarged.

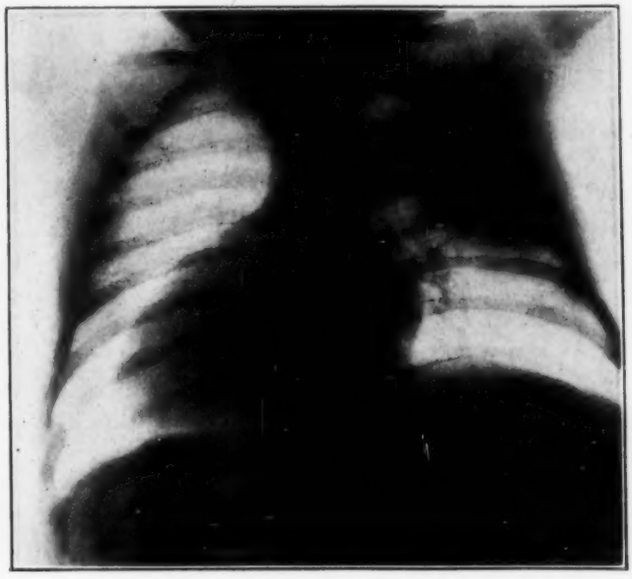

Fig. 7 (Case 7).—Partial consolidation of right upper lobe.

HILUM, LUNGS AND PLEURA

From the point of view of the lungs, the combined study of the physical signs and roentgenograms was made in ninety-seven cases, with a substantial agreement in seventy-seven and a disagreement in twenty of the cases. As examples of the latter, five gave roent-

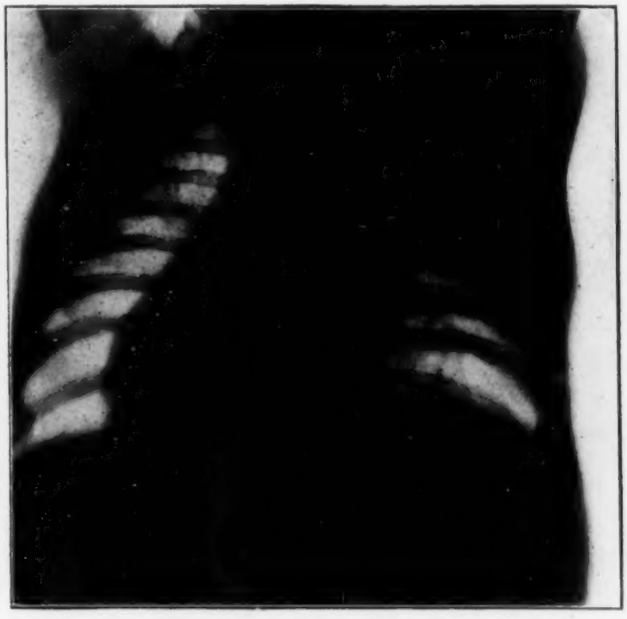

Fig. 8 (Case 8).—Consolidation of right upper lobe.

genographic evidence of lobar pneumonias that were not detected by physical signs, two gave physical signs of lobar pneumonia that were not confirmed by the roentgen ray, three showed physical signs of bronchopneumonia not exhibited by the roentgen ray, and two

failed to show the presence of fluid in the pleural cavity by physical signs when it was exhibited by the roentgen ray.

Fig. 9 (Case 9).—Partial consolidation of lower peripheral portion of right upper lobe.

As a general rule it was found that the roentgen ray would often give a showing in the absence of physical signs in congestions, small consolidations, hilum infiltrations, interlobular pleurisy, miliary tuberculosis and mediastinal tumors. The roentgen ray may be very helpful in these conditions when the physical signs are insufficient for a diagnosis.

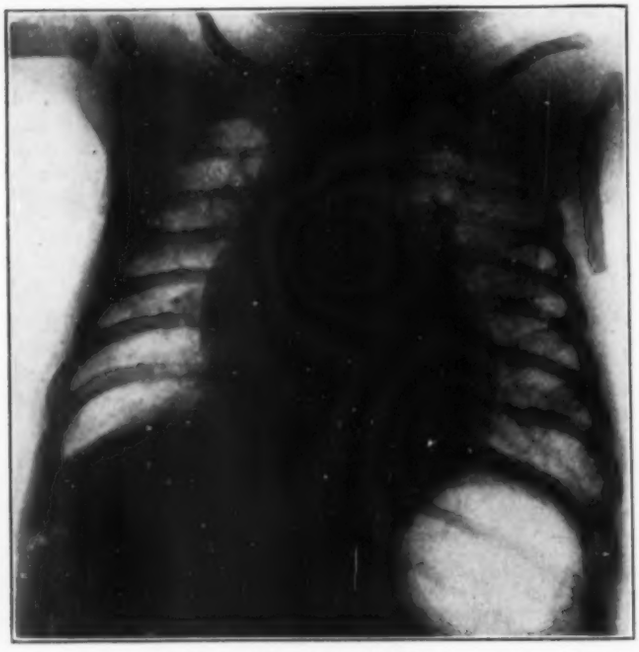

Fig. 10 (Case 10).—Peribronchial infiltration, extending from the roots into the right upper and lower lobes.

Auscultatory physical signs are, of course, not so apt to be accompanied by roentgen-ray shadows as are the percussion signs.

The following types of pulmonary affections may serve as examples of this study:

CASE 5.—S. W., aged 2½ years, had increased breath sounds and moist râles posteriorly on the right, and sonorous râles on the left. The d'Espine sign was noted to the third dorsal vertebra. The von Pirquet test was positive. The roentgenogram revealed increased intensity and irregularity in outline in the hilum, especially on the right side. There were enlarged nodes and calcific deposits in the hilum. There was interlobular pleurisy between the upper and middle lobes on the right side. The triangle here shown with the base at the root of the lung is not due to pneumonia but to tuberculous infiltration. This form of shadow is not usually due to pneumonia at the base.

CASE 6.—J. A., aged 9 years, was shown by the roentgen ray to have marked infiltration of the hilum on both sides with enlarged nodes and calcific deposits.

The difficulty of diagnosing hilum infiltrations and enlarged nodes in the mediastinum by physical signs is very great. The roentgen ray is here distinctly helpful. A study of the transmission of voice sounds

Fig. 11 (Case 11).—Diffuse miliary infiltration through both lungs.

below the seventh cervical vertebra, known as d'Espine's sign, in connection with roentgenograms, was made in eighteen cases by Dr. Edelman in our clinic.

The ages of the children varied from 2 years to 13 years. Five gave a tuberculous history and the rest were negative. All of the patients gave the d'Espine sign from the second to the fourth dorsal vertebra. The roentgen ray showed hilum infiltrations in fifteen of the cases. The von Pirquet test was positive in sixteen of the cases. Twelve of the children had had measles. Eight had had whooping cough, four had had both of these diseases, and four had had pneumonia. Fourteen of the patients had persistent cough, twelve had loss of weight, ten had fever, and three had night sweats. Eleven out of the eighteen patients had enlarged tonsils, and eight had decayed teeth.

The comparison here made shows that d'Espine's sign has considerable diagnostic value in diseased conditions at the root of the lung.

CASE 7.—C. G., aged 8 months, had dulness over the right apex posteriorly, with slight increase in voice and breath sounds. There was no bronchial breathing. The roentgen ray revealed partial consolidation of the right upper lobe which did not extend to the root.

The physical signs and the shadow exhibited in this case confirm the observation of Dr. Mason that bronchial voice and breath sounds do not appear until the consolidation reaches the root. This is explained by the fact that sound is conducted much better through a medium of uniform density than in one of varying density. From studies made by Dr. Mason, he believes that the consolidation of pneumonia always begins in that portion of the lung that lies close to the pleura.[1]

CASE 8.—S. S., aged 2 years, had harsh respiratory sounds over both lungs. There was dulness over the right apex, with bronchial breathing. The roentgen ray revealed complete consolidation of the right upper lobe.

CASE 9.—J. W., aged 11 months, according to the clinical diagnosis had central pneumonia. There was no bronchial breathing. The roentgen ray revealed a partial consolidation of the lower peripheral portion of the right upper lobe. This case also exemplifies the contention that what is supposed to be a central pneumonia is really peripheral at the start. The absence of bronchial breathing is explained by the fact that the inflammation has not yet reached the root of the lung.

CASE 10.—J. G., aged 8 months, had subcrepitant and sibilant râles all over the chest. There were irregular spots of dulness on the left side, and congestion of the left upper lobe. The roentgen ray revealed an infiltration, peribronchial in distribution, extending from the roots into the right upper and lower lobes. This was a case of bronchopneumonia.

In most of our cases the shadow of the heart was increased in pneumonia, especially in lobar pneumonia. The enlargement was usually most marked in the right heart.

CASE 11.—P. S., aged 16 months, had a large number of moist and crackling râles over both lungs. The roentgen ray revealed diffuse miliary infiltration through both lungs.

The cases included in this study were taken from the New York Post-Graduate Hospital and Dispensary. Dr. William H. Meyer, head of the roentgen-ray department, took and interpreted the roentgenograms. I am also indebted to Dr. Edelman for aid in collecting the cases, and to Drs. Walker and Davison of the house staff.

51 West Fifty-First Street

1. Mason, H. H.: Lobar Pneumonia in Children; Roentgen-Ray Findings and an Explanation of Bronchial Signs, Am. Jour. Dis. Child., March, 1916, p. 188.

Control of Communicable Diseases.—*Public Health Reports*, Oct. 12, 1917, contains the report of a committee of the American Public Health Association on standard regulations concerning the control of communicable diseases. This report, which is an extensive one, gives a list of the diseases communicable and reportable, and sets forth in detail information about each, covering the infective agent, source of infection, the mode of transmission, incubation period, period of communicability and methods of control. As a guide to health authorities in the preparation of local regulations regarding these diseases, the committee has established definitions of terms such as the following: cleaning, contact, delousing, disinfection, education in personal cleanliness, fumigation, isolation, quarantine, etc. Inasmuch as the laws under which the various departments of health operate require differences in the legal phraseology of rules, etc., formal regulations have not been prepared by the committee concerning each disease.

THE LIVER AND ITS CIRRHOSES

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The liver is the central metabolic laboratory of the human body responsible for the final preparation of nutritive material for conversion into tissue-building and energizing substances. A brief review of some of its anatomic and physiologic characteristics may not be out of place. The weight of the average liver in man is 50 ounces, with a normal variation of about 10 per cent. It may be assumed, therefore, that a liver weighing more than 55 ounces is increased in size and might properly be called hypertrophic, and one weighing less than 45 ounces might be called atrophic, unless such difference could be explained by the size, above or below the normal, of the person. If the weight of the liver is an indication of its metabolic activities, the liver of the female should be larger in proportion than that of the male, made so by the necessity of taking care of herself and her unborn child. As a matter of fact, the liver of the female is only one fortieth of the body weight, while that of the male is one thirty-sixth of the body weight. The hepatic artery is relatively a small vessel and has no corresponding veins. It is supposed to nourish the liver itself and, so far as its framework, the biliary channels and the gallbladder are concerned, this is undoubtedly true; but I have not seen anatomic proof that the liver cells are nourished by the hepatic artery. It would appear that the liver cells, in the process of acting on the blood brought to them through the portal circulation, receive nourishment direct, and that there is no distinction in this respect between the blood of the hepatic artery and that of the portal vein.

The portal system is made up of the gastromesenteric veins and the splenic vein, and it should be noted that the normal splenic vein carries to the liver from one eighth to one sixth of the total quantity of portal blood. The enlarged spleen has vessels in accordance with its size. The large spleens in certain splenomegalias may have vessels the size of the superior mesenteric artery and veins. This is most important, as it indicates that removal of the spleen relieves the liver of a large load of blood and, as shown by the results of splenectomies, this diversion to the general circulation may be sufficient to relieve the subnormal liver of its overload and enable the patients to return to a fair degree of health in otherwise fatal cases. Splenectomy establishes a new principle of treatment, namely, a reduction instead of a diversion of portal circulation, as accomplished in the experimental Eck fistula and the Talma,[1] Drummond and Morison[2] operation. The stomach and rectum each have a double vascular circulation, portal and systemic. Double ligation and division of the inferior mesenteric artery and vein where they cross the left common iliac vein or just beyond at the promontory of the sacrum, where the artery takes the name of the superior rectal, would greatly reduce the portal circulation. The artery is as large as the brachial, and in two-stage operations for cancer of the rectum, experience has shown that an enormous compensatory circulation is established with the general circulation through the middle and external

1. Talma, S.: Chirurgische Oeffnung neuer Seitenbahnen für das Blut der Vena porta, Berl. klin. Wchnschr., 1898, **35**, 833-836.
2. Drummond, D., and Morison, R.: A Case of Ascites Due to Cirrhosis of the Liver Cured by Operation, Brit. Med. Jour., 1896, **2**, 728-729.

hemorrhoidal vessels. Some effect might be produced by tying the superior coronary vessels of the stomach, thus increasing the return circulation about the esophagus, but this would be relatively unimportant and might increase the tendency to gastric hemorrhage.

To the liver has been given wonderful power of regeneration. If a considerable portion of the organ is removed, it will be restored by the remaining liver cells. Such regeneration has not been given to any other organ in the human body. When the necessity for work compensation is thrown on other organs, it is by hypertrophy of preexisting elements, not cell hyperplasia, that the stress is met. The outstanding feature of the hepatic cell is that there is no differentiation of the cells. Each liver cell is exactly like every other liver cell, and each normal liver cell is fully capable of bearing its portion of the work, here again differing from every other similar organ in which groups of specialized cells are to be found.

FUNCTIONS OF THE LIVER

Our knowledge of the function of the liver is very imperfect. We have learned something from experimentation. About postmortem conditions we know a great deal, but, as the liver cannot be removed in life, and as no attempt is made to remove any considerable portion of it except for disease, which vitiates the testimony, its functions have been most difficult to ascertain. The liver has five chief functions: (1) The metabolism of carbohydrates, (2) the metabolism of proteins, (3) the metabolism of fat, (4) the production of bile, and (5) the defense against bacteria, protozoa, and toxic chemical substances.

1. The glycogenetic function of the liver is most important in the final conversion and storage of carbohydrate derivatives in a form from which energy is most readily produced. The monosaccharids might be called the body coal which heats and energizes, the ash end-product, the carbon dioxid, being carried out of the system by the ventilating function of the lungs. Sugar is a threshold body always existing in the blood but appearing in the urine only when in excess of a definite percentage.

2. The amino-acids from protein digestion, of which eighteen have been described, are carried to the liver by the portal vein and, among other changes, the nitrogen-containing portion of the molecule is there converted into urea. The conversion of the nitrogen-containing portion of the amino-acids into urea is not carried on exclusively in the liver, but the liver seems to have a greater capacity than any other tissue for this reaction. Experimental work on the development of urea is most interesting and indicates that possibly the blood urea may act as a hepatic hormone in relation to protein metabolism. Cushny[3] states that urea is not a threshold body in the blood; that is, it is always to be found in the blood and in the urine. The amino-acids are used in tissue building. They are also converted into fuel and energy-producing substances. Plummer and Kendall[4] have shown that cellular activity is sparked, so to speak, by the thyroid secretion, hyperthyroidism overenergizing this activity, and resulting in a burning up of the tissues.

3. The fat function of the liver is not well understood. We know that sugar and fat are stored temporarily in the liver, ready for immediate use. It is probable, under certain circumstances, that carbohydrates are converted into fat in the liver. It has been shown that by forced overfeeding of carbohydrates the liver of the goose may be caused to become enormously fat, constituting a well known Teutonic delicacy. Osler[5] has pointed out that the carbohydrate value of beer, although small, is sufficient when enormous quantities are drunk to cause an immense storage of fat in the human liver, and that when this fat exists in connection with a deposit of connective tissue the portal cirrhosis which follows will develop a hypertrophic instead of an atrophic liver. In acute stress, such as occurs in phosphorus and chloroform poisoning, and massive infections, the liver may undergo a most rapidly fatal fatty degeneration. Its usual response to destructive insults appears to be acute fatty degeneration. In these first three functions, namely, the metabolism of carbohydrates, proteins and fat, the liver completes a process started in the gastro-intestinal tract. In the next two — the bile and defense functions — the spleen is associated with the gastro-intestinal tract.

4. It is difficult to state whether the production of bile is purposeful or a waste which contains by-products valuable in intestinal digestion. The bile pigments are derived from destroyed red corpuscles carried to the liver, partly from the spleen. At one time, the red blood cells of the body were supposed to be completely regenerated in from seven to ten days, the estimation being based on the total amount of pigments excreted in the bile. Recent investigations, however, cause some doubt regarding the accepted opinion that the bile pigments are all derived from destroyed red cells, and indicate that the red cells have a much longer life. The latter view agrees with the known results of blood transfusion in the anemias. When enormous quantities of blood are destroyed, as in hemolytic icterus, the liver, as well as the spleen, becomes greatly enlarged—a condition that has been confused with biliary cirrhosis. Accumulating evidence, however, goes to show that, while such a liver may contain an increased amount of connective tissue, it is not necessarily related to the biliary channels, and to a very large extent, the enlargement may be looked on as a work hypertrophy with hyperplasia of the liver cells. An interesting constituent of the bile is the lipoid cholesterin; a certain amount of cholesterin is always to be found in the blood, but the amount excreted in the bile varies greatly with the condition of the patient. In the pregnant female, as reported by Aschoff, cholesterin is greatly increased; this suggests its relation to gallstones, which are four times as common in women as in men, at the same relative ages, and in 90 per cent of the female patients with gallstones, the first symptoms are related to a pregnancy.

5. The defense function of the liver is most important. Bacteria are constantly being carried to the liver from the portal circulation, and pigments of these slaughtered bacteria are found as nonhematogenous hepatic pigment areas (Adami[6]). The spleen strains out many bacteria, as in typhoid, and protozoa, especially the plasmodium of malaria and the spirochete of syphilis; but it may be unable to destroy these organisms, and they are sent to the liver for destruction. It seems fairly clear that, at least so far as portal cirrhosis is concerned, it is related to the defense func-

3. Cushny, A. R.: The Secretion of Urine, New York, Longmans, Green & Co., 1917.
4. Plummer, H. S., and Kendall, E. C.: Personal communication to the author.
5. Osler, W., and McCrae, T.: Modern Medicine, Philadelphia, Lea & Febiger, 1914.
6. Adami, J. G.: The Principles of Pathology, Philadelphia, Lea & Febiger, 1908.

tion; the liver, losing power to absorb and eliminate diffuse poisons, attempts to encapsulate them, thus introducing the connective tissue. The spleen has been compared by Rowntree[7] to the glomeruli of the kidney, and the liver to the tubules, the one straining out the degenerated cells, micro-organisms and poisons, and the other acting on the material brought to it. The interrelated pathologic condition of the spleen and liver follows closely this interrelation of function.

CLASSIFICATION OF CIRRHOSES

The foregoing most prominent facts connected with the anatomy and physiology of the liver have been reviewed with the idea of throwing some light on the connective tissue diseases of the organ. First inaptly called cirrhosis by Laennec, on account of a tawny or yellow color which sometimes exists, cirrhosis is a term applied indefinitely and indiscriminately to almost any condition of the liver which is not understood, but in which there is an excess of connective tissue. The outstanding feature of all liver changes, the result of chronic irritation without regard to cause, is the deposit of connective tissue. This is well shown in the local cirrhotic processes which may accompany cancer, syphilis and tuberculosis of the liver.

The pathologic classifications are based on morphology, and the morphologic pictures are sometimes differently interpreted by the various authorities. To one who makes an attempt to understand the cirrhosis and who is interested in the living rather than the dead body, the pathologic descriptions are certainly far from illuminating. It is sometimes of benefit to be an amateur, in that an amateur may be able to see more clearly the larger elements, which are often lost in details; in other words, a better perspective is obtained. Generally speaking, fundamental types of cirrhoses may be distinguished; the others represent combinations or variations, rather than entities.

The two types are:

1. Portal cirrhosis, in which the chronic irritants, probably biochemical substances, are introduced through the portal vein, and in which circulatory disturbances are the most prominent clinical features, causing gastric hemorrhages, and especially ascites. Jaundice is seldom present and only as a terminal symptom.

2. Biliary cirrhosis, in which jaundice is clinically the chief symptom, ascites being absent or, if present, being a terminal condition, with the evidence pointing to an infectious cause.

In portal cirrhosis the connective tissue is introduced about the radicles of the portal vein, and in biliary cirrhosis, about the bile ducts. In both portal and biliary cirrhosis the spleen is often enlarged and has a causative relation in many cases, such as the terminal portal cirrhosis of the splenic anemias, the so-called Banti's disease.

I have never seen a case I could call Hanot's cirrhosis, and, so far as I know, this type of cirrhosis has no pathologic basis and little clinical evidence to support its existence. The large majority of cases that have taken the term of Hanot's cirrhosis are either hemolytic icterus or the ordinary type of biliary cirrhosis. As a matter of fact, hemolytic icterus, primarily a splenic disease with a work hypertrophy of the liver, has been confused with biliary cirrhosis and, as gallstones with recurring exacerbations of infections have existed in something like 60 per cent. of the cases in which we have removed the spleen for the cure of hemolytic icterus, this confusion has not been entirely without excuse. If we constantly bear in mind that, without regard to the nature of the irritant, the response in the liver is connective tissue formation, and that this may involve the whole liver or that it may exist locally, it may readily be seen where confusion has arisen. While typical portal cirrhosis, on the one hand, and typical biliary cirrhosis on the other, are well defined, atypical forms exist from mixed causes, as portal cirrhosis with secondary biliary cirrhosis from gallstone infections.

If hemolytic icterus is split off from the cirrhoses, and if it can be shown by further investigations, which our somewhat limited experience leads me to believe, that the enlargement of the liver which often exists in hemolytic icterus is a work hypertrophy and that the connective tissue formation present is not specific; much will have been accomplished in clearing up a vexed question.

Comparatively little work has been done on portal cirrhosis since the eighties, but during that period many interesting papers were written, especially by the French and English. Hilton Fagge[8] calls attention to a number of cases in which persons apparently in perfect health died suddenly from accidental causes and were found at necropsy to have had an extensive cirrhosis of the liver, suggesting some unknown factor not properly estimated. At operation I have occasionally found extensive cirrhosis of the liver unrelated to the condition which called for the operation and apparently not of immediate clinical importance.

COMPARISON OF PORTAL AND BILIARY CIRRHOSIS

It is probable that the relation of stimulants to cirrhosis of the liver, at least in this country, has been exaggerated. I have seen a considerable number of cases of portal cirrhoses in nonalcoholic young persons. Fagge shows that in Guy's Hospital for twenty-five years 14 per cent. of those dying from portal cirrhosis with ascites had complicating tuberculous peritonitis. Cheadle[9] and others have shown that, while the Laennec type of atrophic cirrhosis stands at one end of the group, representing the typical gin or hobnail cirrhosis of the liver, as many cases are to be found in which the weight of the liver is increased as there are those in which it is diminished, and the belief that such huge livers finally contract down to the Laennec type is unfounded. It is, of course, quite probable that, in the hepatitis which early accompanies the deposit of connective tissue, the liver would be somewhat enlarged before contraction. But that this is at all true of the massive livers, and especially of those containing quantities of fat, as seen in the beer drinker, cannot be credited. Our better understanding of the atrophic type of portal cirrhosis has led us to underestimate the frequency with which the cirrhotic liver is increased in size and weight. In biliary cirrhosis the liver is always enlarged. The margin of safety in the liver is very great. The patient with portal cirrhosis rarely dies from insufficiency of hepatic tissue, but death is usually brought about through changes in the circulation, and secondary complications, while in biliary cirrhosis death results from chronic jaundice and cachexia. The establishment of compensatory circulation by which blood would be passed from the portal

7. Rowntree, L. G.: Personal communication to the author.

8. Fagge, C. H.: Principles and Practice of Medicine, Philadelphia, Blakiston, 1886.

9. Cheadle, W. B.: Some Cirrhoses of the Liver, Brit. Med. Jour., 1900, **1**, 754-757; 824-826; 893-898.

vein around the liver into the general circulation, as advanced and pictured by Talma, Drummond and Morison, has given marked palliation in suitable cases. Sappey has most-accurately described the venous avenues by which such compensatory circulation is brought about through nature's unaided efforts. Eck's fistula, that is, the establishment of a bypath between the portal vein and the vena cava, is purely experimental. It is of interest that in all the cases I have seen in which portal cirrhosis accompanied splenic anemia, the cirrhosis was of the atrophic type of Laennec.

In fifty-one cases of splenic anemia, in which we have removed the greatly enlarged spleen, the relief to the portal circulation has been immediate. In those cases in which cirrhosis was present, the ascites has now disappeared and several patients have lived for years, one for more than seven, in excellent health. The evidence here points to the fact that the original poison was carried to the liver from the spleen and theoretically is probably a protein derivative, filtered from the blood. But in five cases of portal cirrhosis with ascites, in which I removed the enlarged spleen, the four patients who recovered were greatly improved both as to their general condition and as to the relief of the ascites. On first thought, it seemed probable that in the removal of such a spleen I had checked the source of poisoning. On further consideration, another explanation appears possible or even probable. With the removal of the spleen, all the blood from the general circulation, which otherwise would have been sent to the liver through the splenic vein, was prevented from going there, and in this manner sufficient blood had been diverted from the liver to relieve the portal circulation. Possibly both views are more or less correct. The results in these cases should encourage us to splenectomize in suitable cases of portal cirrhosis in the future, especially when the spleen is enlarged.

Biliary cirrhosis, of the obstructed or acutely infected type, is easily understood. It exists in connection with gallstones, particularly those in the common duct, and jaundice is an early and continuous feature. In many of these cases, however, the patients are not cured by the removal of gallstones and biliary drainage. More or less permanent damage has been done to the ducts, resulting in chronic areas of infection and often in deposits of stones in the bile ducts, until thousands of such stones may be found in the liver. A second type, which is not so well understood, accompanies certain chronic biliary infections. In these it would appear that either primary hematogenous infection of the bile ducts took place or that there was an extension from a chronically infected gallbladder to the ducts. Rosenow's[10] work in revealing the specificity of bacteria, and in showing that the bacteria, usually streptococci, are to be found in the walls of the gallbladder and ducts and not in the bile, is most important. Large, soft lymphatic glands are usually to be found along the common duct and in the fissure of the liver. In chronic biliary cirrhosis, the liver is large and the walls of all the biliary ducts are extremely thick. In one instance, the lumen of the common duct was reduced at least one half by the deposit of connective tissue in the wall of the duct. Every grade of biliary cirrhosis may be found in this chronic type, which is much more liable to be accompanied by an enlarged spleen than those dependent on the more acute infections of the common duct. Not infrequently, chronic pancreatitis will be present from coincident infection. I have seen cases of this description in which there was apparently much improvement by prolonged biliary drainage to the surface, or by a cholecystogastrostomy or cholecystoduodenostomy; but as the clinical course of these patients is very chronic, I am not at all sure that cause and effect are properly related. In five cases of this type, in all of which the spleens were enlarged and the patients were more than 35 years of age, I performed splenectomy. All were improved, the jaundice was greatly reduced, though it had not entirely disappeared in any case, and the liver remained more or less enlarged. There are two possible explanations of this improvement: 1. The source of the chronic infection may have been focal at some point in the body and the toxic material resulting may have been continuously strained out in the spleen and sent to the liver, continuing the infection there. Such cases are occasionally seen in diseases that follow infectious diseases, for example, pneumonia. 2. When the spleen was removed, there was a large reduction in the necessary work to be performed by the liver.

The confusion which has arisen between biliary cirrhosis and hemolytic icterus has somewhat of a parallel in the failure to differentiate those ascites due to polyserositis (Concato's disease) and portal thrombosis from portal cirrhosis. Fagge states that for every three cases of portal cirrhosis with ascites, he saw one of ascites from polyserositis. Concato's disease may be recognized by the thick white peritoneum, by the intestines with greatly shortened mesentery clustered about the spine, and by the encasement of the liver and spleen in a thick white fibrous membrane. Free fluid is usually to be found in both pleural cavities. Pick's syndrome often exists, in which pericardial adhesions hamper the heart's action. The fact that, in some of these cases, the liver is completely encapsulated leads the uninitiated to believe that some form of cirrhosis is present, but, on excision of the strangling membrane, the liver will be found normal.

Warthin[11] has pointed out that thrombosis of the portal vein or some of its branches occasionally occurs with ascites, being a chronic malady accompanied by liver changes and splenomegalia, and usually confused with portal cirrhosis or splenic anemia.

10. Rosenow, E. C.: The Etiology of Cholecystitis and Gallstones and Their Production by the Intravenous Injection of Bacteria, Jour. Infect. Dis., 1916, **19**, 527-556.

11. Warthin, A. S.: The Relation of Thrombophlebitis of the Portal and Splenic Veins to Splenic Anemia and Banti's Disease, Internat. Clin., 1910, **4**, 189-226.

Egg Substitutes.—Cooking tests and analyses of egg substitutes were made by the laboratory of the Kansas State Board of Health, the results of which are given in the *Bulletin* for March. In the experiment of making sponge cake with no baking powder and replacing half the usual number of eggs with egg substitute, the cake stuck to the pan when done and did not have the other characteristics of true sponge cake. In another test, baking powder was used instead of eggs and egg substitute, with a like result. Averaging the price of seven egg substitutes, the analyses of which are given, the *Bulletin* says the consumer pays more per pound for the substitute than he would per pound for the dry material of hen's eggs calculated at 40 cents a dozen. The so-called substitutes are chiefly starch (70 to 90 per cent.), whereas the dried matter of eggs is essentially protein and fat. An analysis of a substitute called "eggette" showed to be false the manufacturer's assertion on the carton that the contents of the package was equivalent to twelve eggs. On the basis of protein value, the substitute was shown to be equal to only 1.7 egg; on a basis of fat, it was equal to only 0.14 egg, and in fuel value it was equal to only 2.6 eggs.

IMPORTANCE OF SIGMOIDOSCOPE IN DIAGNOSIS OF DISEASE IN TERMINAL COLON AND RECTUM

WITH A DISCUSSION OF TWO HUNDRED AND FIFTY-ONE CASES

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This study is based on a series of patients whom I examined with the protoscope or sigmoidoscope while at the Mayo Clinic, 1917. The patients, with few exceptions, had not been examined with special instruments, though nearly all of them complained of some symptoms referable to the terminal bowel or to some disease in this region. The failure to detect early the large number of diseased conditions in the terminal colon results from a neglect to examine all patients with the sigmoidoscope, however slight the symptoms. At the time of examination, I noted the chief complaints and findings, and, after the discharge of the various patients from the clinic, I reviewed carefully the histories, noting the findings, diagnoses and results of treatment. In Table 1, I have classified all cases examined, as shown by the final diagnosis, but in this paper, shall take up only those grouped under A, B, C and D, because of a lack of space for lengthy consideration of all cases, and because of the greater importance and gravity of the diseases in these groupings.

Disease of the large bowel is most commonly located (exclusive of the appendix) in the rectum and sigmoid; consequently, its presence may usually be determined by inspection of this region. Leichtenstern[1] states that in 770 cases of intestinal carcinoma, 616 were in the rectum, 89 in the colon, 32 in the cecum and appendix, and 33 in the small intestine. Out of 89 cases of colon carcinoma, 42 were in the flexura sigmoidea, and 30 in the transverse, 11 in the descending, and 6 in the ascending colon.

While a number of disease conditions may be discovered by the examining finger, yet inspection by means of a protoscope is necessary in the majority of cases before a definite diagnosis may be made. The majority of carcinomas are beyond reach of the finger, yet well within observation by the protoscope or sigmoidoscope. In a series of 100 consecutive cases of carcinoma of the rectum and rectosigmoid removed at St. Mary's Hospital, 63 per cent. involved the rectosigmoid region.[2]

Twenty-two cases of my series (Table 1 A) were diagnosed carcinoma, and in only one was the carcinoma located beyond reach of the sigmoidoscope. This was removed after a roentgen diagnosis of probable carcinoma or diverticulitis, the carcinoma being located in the upper part of a long sigmoid. The appearance of carcinoma is usually quite characteristic, with an annular or oval ulcerated growth elevated at the edges, and a cauliflower-like appearance of the granulation tissue. In later stages, the growth may produce an almost complete stenosis of the bowel; but careful inspection of the everted edge and irregular surface of the ulcerated growth, which is hard, friable, and either circumscribed or diffuse, establishes the diagnosis. The appearance of carcinoma after radium exposure is somewhat different. The surrounding tissues are edematous, somewhat indurated, and instead of the ulcerated surface having a cauliflower-like appearance, it is quite smooth and glistening, while the new growth is less resistant, edematous and not so sharply circumscribed. The history of the disease and the application of radium, in connection with the proctoscopic examination, will enable the making of a definite diagnosis, and only in exceptional cases is it permissible to remove tissues for microscopic examinations.

The chief complaints in these cases (Table 1 A) were blood in 21, constipation in 15, pain in 10, usually in the rectum but in 1, in the lower abdomen, pencil stools in 9, hemorrhoids in 5, and, in 2 cases, a long existing diarrhea. The duration of symptoms was about eight months, though in four cases, the average was only three months. In a review of 491 cases of carcinoma of the rectum and pelvic colon, Lynch[3] found the average duration to be more than eight months.

In twenty cases of chronic colitis (Table 1 C) the *Endamœba hystolytica* was found. The appearance of the bowel in colitis due to the ameba is not characteristic, but in some cases in which there are multiple small oval or round ulcers, some mucus, a hyperemic, easily bleeding surface, and some edema of the wall, the ameba may be correctly diagnosed as the cause. Many cases proved amebic are of slight severity or are limited to a slight proctitis, the sigmoid appearing normal. In two of these twenty amebic cases, the moderate inflammation was limited to the rectum, and roentgenoscopy revealed no changes in the colon. From the experimental production of amebic colitis in kittens, Dale and Dobell[4] found the upper and lower third of the colon most involved, especially the latter. Lynch and McFarland,[5] in reporting chronic colitis with negative stool examination, state that in the unclassified nonamebic colitis, the sigmoid is most involved. Some of the amebic patients examined had evidences of previous severe inflammation in folds of hypertrophied or atrophic and scarred mucosa, two patients having generally contracted and rigid colons. Considerable care was used, especially in the latter cases, in passing the sigmoidoscope, to prevent tearing the mesentery or wall.

The chief complaints in the twenty amebic colitis cases were diarrhea in 14, epigastric or diffuse abdominal pain in 11, rectal pain in 1, blood in 6, mucus in 4, alternate constipation and diarrhea in 2, constipation in 1, pus in 1, gas in 1, and frequent urination in 1. Sanford[6] found in 41 per cent. of persons affected with ameba in the temperate climate a history of constant diarrhea, in 33 per cent., intermittent diarrhea, and in 26 per cent., no bowel trouble at all except constipation, the whole syndrome being less severe than in the South or the tropics. Whitmore[7] emphasizes the grave danger of the rapidly increasing number of carriers of *Endameba histolytica* in camp life, including many who have no intestinal symptoms. He states that from 20 to 25 per cent. of dysentery on the East-

1. Leichtenstern, in von Ziemssen's Handbuch, Ed. 1, **7**, quoted by Strauss: Procto-Sigmoscopie, Leipzig, 1910.
2. Mayo, W. J.: A Study of the Recto-Sigmoid, Surg., Gynec. and Obst., 1917, **25**, 616.
3. Lynch, J. M.: Cancer of the Rectum and the Pelvic Colon, THE JOURNAL A. M. A., Nov. 24, 1917, p. 1775.
4. Dale and Dobell: Experiments on the Therapeutics of Amoebic Dysentery, Jour. Pharmacol. and Exper. Therap., 1917, **10**, 397.
5. Lynch, J. M., and McFarland, W. L.: Colonic Infections, THE JOURNAL A. M. A., Sept. 23, 1916, p. 943.
6. Sanford, A. H.: The Geographic Distribution of Amebiasis, THE JOURNAL A. M. A., Dec. 23, 1916, p. 1923.
7. Whitmore, E. R.: Dysentery and Its Relation to Camp Life, Pennsylvania Med. Jour., 1918, **21**, 273.

ern front is due to the endameba, and that carriers are very resistant to treatment.

Thirteen patients with chronic colitis (Table 1 D) showed no specific organism on repeated stool examinations; consequently, they are grouped separately. Four of this group were clinically diagnosed as having amebic colitis, the remainder being classed under unknown etiology. In comparing the unclassified with the amebic group, I found the severity of the colitis much less in the latter. Only one amebic case was severe enough to require ileostomy, while in the much smaller number of unclassified chronic cases, two patients were operated on in this manner. This severe chronic colitis must not be confused with the mucous type, in which no actual inflammatory changes are seen, and for which Simon[8] has suggested the name myxoneurosis. There is a true inflammation of the mucous membrane in these chronic cases of colitis, complicated by infiltration of the wall, and perhaps by peritonitis, with oftentimes erosions and ulcers as secondary changes. The stage between a simple and a severe colitis is a very gradual one.

in the ileum after a meal, and accelerated in the colon, others having found the same to be true.

The chief complaints found (Table 1 D) were diarrhea in 12, blood in 7, abdominal pain in 3, mucus in 4, some incontinence in 2, and alternate constipation and diarrhea in 1. Concerning the etiology of severe colitis with negative stool examinations, it is significant that Strauss[10] in working on the serologic reaction, found a positive agglutination test consistently against the various types of dysentery, paratyphoid and typhoid bacilli in both acute and chronic cases. In only one case, that of an acute type, did he find the corresponding organism in the stool.

POLYPI AND CARCINOMA

An interesting group is seen in Table 1 B, and is elaborated on in Table 2. In this series are thirteen cases, in twelve of which polypi were present and in one of which there was no recurrence observable from the base of a polypus removed several months before. In one (Case 9) there was a recurrence of a polyp fulgurated ten months previously. Severe multiple

TABLE 1.—CONDITIONS FINALLY DIAGNOSED, AND MOST FREQUENT COMPLAINTS IN TWO HUNDRED AND FIFTY-ONE CONSECUTIVE CASES

Conditions Present	Number of Cases	Blood	Diarrhea	Constipation	Constipation and Diarrhea	Average Duration of Symptoms, Months	Remarks
A. Carcinoma	22	21	2	15	..	8	
B. Polypi	12	7	4	..	..	16	
C. Amebic colitis	20	6	14	1	2	55	Three had slight proctitis, one of them a polyp
D. Unclassified chronic colitis	13	7	12	..	1	14	
Proctitis	7	..	..	..	..	...	Several had advanced hemorrhoids
Benign stricture	4	1	..	..	3	...	
Rectal urinary fistula	2	..	..	..	..	...	
Fistula in ano	14	..	..	..	..	12	
Ischiorectal abscess	6	..	2	2	..	...	
Prolapse of rectum	13	3	..	3	..	...	One case was prolapse of sigmoid
Relaxed or incontinent sphincter	3	2	2	1	..	...	These were all the result of some operation
Inflamed or ulcerated hemorrhoids	10	5	..	..	..	108	
Hemorrhoids (definitely enlarged)	59	30	4	6	..	96	The most frequent complaint was of hemorrhoids
Recurrent hemorrhoids	2	..	..	..	..	...	
Fissure in ano	7	2	..	2	..	4	
Anal inflammation (syphilitic)	1	..	..	..	..	...	
Diverticulum of rectum	1	..	..	..	..	...	Prolapse of rectum and hemorrhoids, 20 years
Miscellaneous diseases	6	..	..	..	..	...	
Absence of disease, or slight hemorrhoids	58	..	..	..	..	...	

Roentgenoscopy is of value in chronic colitis because of its aid in determining predisposing causes, as stasis, chronic obstruction, and diverticula, or in estimating the extent and amount of involvement due to secondary changes. Kienböck[9] describes two types of colitis ulcerosa as determined by the roentgen ray from five to twelve hours after the meal, immediately after, and one hour after, an opaque enema. (The use of the enema for roentgenoscopy should be avoided in very acute or severe chronic cases, as it may lead to perforation.) The colon, in the first type described by Kienböck, is narrow, may be spastically contracted, and is nearly or entirely haustraless with uneven flecking of the edges; in the second type, it is relatively broad, and almost invisible, owing probably to its being filled with slimy mucus and nearly bismuth-free contents; or, if visible, it presents the appearance of a very light, haustraless cylinder, owing to its being filled with air, and has a characteristic uneven bismuth flecking throughout. In chronic ulcerative colitis, Kienböck found the progress of the bismuth retarded

polyposis was found in one (Case 11) in which deep ulcerations and a severe inflammation of the colon later became complicated by multiple perforations and ended in death. In the remaining cases there were only solitary or a few scattered polypi; however, there is significance in the fact that in three of these (Cases 2, 3 and 7) a carcinoma was also present. While multiple polyposis of the colon has been recognized for many years as a serious disease because of the frequent consequent development of carcinoma, the importance of the association of isolated or of a few scattered polypi with carcinoma has not been emphasized; consequently, the treatment of these polypi, and of local inflammation, has been neglected.

Whether the same conditions call forth both carcinoma and polypi, whether the carcinoma is secondary to the polypi, or vice versa, has not been established. Recently, Soper,[11] in reporting a case of his own, reviewed the literature of multiple polyposis, and found sixty cases. Carcinoma was present in 43 per cent. of these, appearing much more frequently in the rectum. The etiology of multiple polyposis is not

8. Simon, S. K.: Mucous Colitis and Its Treatment, New Orleans Med. and Surg. Jour., 1916, **69**, 25.
9. Kienböck, R.: Zur Röntgendiagnose der Colitis, ulcerosa, Fortschr. a. d. Geb. d. Röntgenstrahlen, 1913, **20**, 230.
10. Strauss, H: Zur Aetiologie der Dysenterie und dysenterieähnlicher Erkrankungen, Arch. f. Verdauungskr., 1915, **21**, 16.
11. Soper, H. W.: Polyposis of the Colon, Am. Jour. Med. Sc., 1915, **151**, 405.

clear. Although most frequent in young persons, yet even here there is early carcinoma involvement. That there may be some familial relationship between carcinoma and multiple polyposis is shown by Doering,[12] who reports that out of fifty patients, eight were members of families in which other members had died from carcinoma of the rectum. The polypi vary from the size of a pigeon's egg to very minute dimensions.

Most authors classify two chief types of polypi and believe that either type may occasionally be multiple, producing the disease multiple polyposis. In the first type, the adenoma or increased gland formation may form a superficial infiltration into the wall, or else project as a polypus. In the second type, the polypoid tumor is composed of solid connective tissue from the submucosa, or of branching tufts covered with more or less indifferent mucosa. Here, also, there may be tubules lined with cylindric epithelium resembling an adenoma.[13] Some authors[14] think that the condition of multiple polyposis does not originate in the isolated type of polypi, and that the multiple polyposis tends specifically to the development of carcinoma. In gastric polyposis, Finney and Friedenwald[13] report that polypi of the stomach are usually benign in character; but they observed one of two cases reported to be undergoing carcinomatous degeneration. Delafield and Prudden[15] state that in some adenomas of the colon the tubules are irregular in shape and arrangement, and the growth infiltrates the surrounding parts, and that there is no sharp line between these tumors and carcinomas.

It is the belief of many that these polypi originate from congenital rests, and are absolute new growths.[16]

Versé[17] assumes a congenital predisposition of the epithelial cells to increased proliferation, which through stimulation by chronic inflammation leads to polyp formation. Borelius and Sjovall[18] conclude that all supposed characteristic differences between polypi of primary new growth and those secondary to inflammatory origin are shown untenable, and that there is no hindrance to the belief that all intestinal polypi can start on an inflammatory basis. Wechselmann[19] thought that the inflammatory hyperplastic polyposis, as contrasted with new growths, was limited to the mucosa possessing no pedicle from the submucosa. Borelius and Sjovall, however, showed that in a case with varying degrees of inflammation, both conditions were present, the pedicle coming from the submucosa as a result of the more extensive inflammation. Multiple polyposis of the colon may occur secondary to inflammatory changes in the mucosa, by the scarring and the mucosal excrescences in dysentery and tuberculosis.[15]

While the adenomatous type of polypi may degenerate into carcinoma more frequently, the connective tissue polyp is also associated with malignancy; and while the epithelium may appear indifferent, the polyp or the conditions producing it may also predispose to

TABLE 2.—THIRTEEN CASES, IN TWELVE OF WHICH ISOLATED OR MULTIPLE POLYPI WERE PRESENT

No.	Chief Complaints	Polypi	Number of Polypi	Age	Sex*	Complications	Remarks
1	Blood in stools, diarrhea and bowel distress, 1 year	1 in rectum; 4 or 5 in lower sigmoid	5-6	26	♂	Severe colitis	On examination, one polyp found to be an adenoma
2	Blood and hemorrhoids, 10 years; pain in rectum, 1 year	5 or 6 in rectum and lower sigmoid; bean sized to hazelnut	5-6	43	♂	Carcinoma, 5 cm. up rectum	Kraske operation done
3	Hemorrhoids, 10 years, constipation and blood, 9 months	1 sessile pea sized rectal polyp	1	47	♂	Carcinoma, 3 cm. up rectum	Metastases found in liver; chronic inflammation in polyp
4	Abdominal pain, diarrhea and mucus	1 in lower sigmoid	1	39	♂	Spastic sphincter	
5	Diarrhea, 3 years	1 small polyp in lower rectum	1	35	♂	Ameba histolytica present	On examination, polyp shows chronic inflammation
6	Constipation and hemorrhoids 20 years; blood, 1 year	1 lower sigmoid, bean size; 2 small ones, lower rectum	3	50	♂		
7	Hemorrhoids, pain, blood and ribbon stools, 1 year	1 bean sized in lower rectum	1	67	♂	Carcinoma, 8 cm. up rectum	Tube resection of bowel done (peritonitis)
8	Piles and spasm of sphincter	1 bean sized in lower rectum	1	30	♂	Hemorrhoids	
9	Slight incontinence of feces	1 pea sized, upper rectum, recurrent; 2-3 small ones, lower sigmoid	3	38	♂		Recurrence of one polyp fulgurated 10 months before
10	Diarrhea, constipation, mucus and blood, 2 years	1 bean sized in lower rectum	1	30	♀	Severe ulcerative colitis	No amebas found
11	Severe pain, diarrhea, blood and mucus, 8 months	Extensive, ulcerative, polyposis colon	Multiple throughout colon	35	♀	Multiple perforations one month later	Pathologically, extensive diffuse papillomatous colitis with multiple ulcers and perforations
12	Severe anemia and loss of strength	1 bean sized, upper rectum; 1 smaller, lower sigmoid	2	63	♂		
13	Rectal distress	Polyp previously removed and hemorrhoids operated on 3 times	None now seen	45	♂		Previous removal of polyp and hemorrhoids; no recurrence

* In this column, ♂ denotes male and ♀ female.

12. Doering, H.: Die Polyposis intestini und ihre Beziehung zur carcinomatosen Degeneration, Arch. f. klin. Chir., 1907, **83**, 194.
13. Doering (Note 12). Finney and Friedenwald: Gastric Polyposis, Am. Jour. Med. Sc., 1917, **154**, 683.
14. Earle, S. T.: Diseases of the Anus, Rectum and Sigmoid, 1911.
15. Delafield and Prudden: A Text Book of Pathology, Ed. 10, 1914, p. 689.
16. Kaufmann: Spezielle pathologische Anatomie, Ed. 5, Berlin, 1909. Hauser, Schmoler, Schwab and Lahm, quoted by Borelius and Sjovall (Note 18).
17. Versé, quoted by Kaufmann (Note 16).
18. Borelius and Sjovall: Ueber Polyposis intestini, Beitr. z. klin. Chir., 1916, **99**, 424.
19. Wechselmann, quoted by Borelius and Sjovall (Note 18).

carcinoma. In Table 2, Case 1, in which a severe colitis existed, one of the polyps was found to be adenomatous. In Case 11 it was papillomatous in type, while in Case 3 there was found chronic inflammation in the polyp associated with a cancer.

A few writers report solitary or a few scattered polypi associated with carcinoma, but mention their benign character. As mentioned above, in three of my cases (Table 2, Cases 2, 3 and 7) a carcinoma was present when there were solitary or a few scattered polypi. The unusual frequency of carcinoma with solitary or scattered polypi should be emphasized, for there probably is only a difference of degree in the proper stimulation, such as chronic inflammation or trauma for producing either solitary polypi, or a very grave disease, multiple polyposis. Since carcinoma develops early in about one half of the cases of multiple polyposis before they terminate in other complications, some specific predisposition must exist. Prophylactic treatment against all causes of chronic irritation or inflammation of the rectum and sigmoid, and active treatment in all stages of polypi, are advocated.[20]

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Clinical Notes, Suggestions, and New Instruments

REPLACEMENT OF SCALP ON A DENUDED DRY SKULL BY GRANULATIONS SECURED THROUGH HOLES DRILLED IN THE BONE

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In this case there was successful development of a covering of granulation tissue and epithelium over a skull dome, the bones of which were exposed, dry and undergoing necrosis. Grafts could not be attempted because of the bones' condition, and the usual tissue and blood supply for flaps in this area had also been destroyed.

The clothing of a girl of 6 caught fire. She threw herself, face downward, under the bed and protected her face by her right arm. The lower edge of the burned area extended across her back from the right lower costal margin to the angle of the left scapula. From this line the burn extended upward and, besides the head and neck burns, involved the back of both shoulders, more especially the right, and the extensor surface of the right arm. On the head and neck the burns and resultant sloughs involved the nape and right side of the neck, the scalp over the occiput to an irregular height of about 1 inch above the occipital protuberance, and the right ear. A ribbon-like burned area about an inch wide and an inch above the eyes extended across the right temple and forehead and caught the left ear in its subsequent scar. The left postauricular area was the only part of the base of the scalp that did not later slough, and the left posterior auricular artery was the only blood supply to the scalp not destroyed. The face, protected by the arm, escaped injury and remained uninvolved throughout. The scalp above the occiput, except for the ribbon-like burn, escaped immediate injury, though later sloughing.

At the time of the child's admission to the hospital, three weeks after the burn was received, the burned area was a mass of infected, sloughing tissue giving off a very offensive odor and, because of the child's intractability, requiring six nurses to dress. The burns were treated antiseptically until healthy, and then those on the back, shoulders, neck and right arm were successfully skin-grafted. Because of the lack of any blood supply except the left posterior auricular artery, the scalp over the crown, above the burned area, underwent dry gangrene, and, much like a piece of leather, was painlessly pulled off by the attending surgeon two weeks after the hospital admission, the pericranium sloughing with the mass. The removal of the slough left the bone bare for an area of approximately 4 by 6 inches. The wounds around the bare bone became healthy; granulations spread out, but, for the lack of circulation, they extended only a short distance over the denuded area. The bone began to undergo necrosis and softened in spots, but at the same time granulations appeared through the two parietal foramina and, to a slight extent, through the suture line between the two parietal bones. This suggested that if there was enough foramina there would be enough granulation to cover the surface. Skin for flaps was not available, the skin of the neck having already been destroyed; Tiersch and pinch grafts would not grow on the dry and softening bone. So, instead, I drilled about fifty holes through the dry calvarium at the intersection of squares measuring 1 cm. each way. The purpose of the drilling was to obtain a blood supply; so when blood was drawn the drilling stopped. In the softened areas, over the parietal eminences, the drill at times went through more quickly than expected, punctured the dura, and permitted the escape of cerebrospinal fluid.

The immediate postoperative reaction was a rise of temperature reaching a maximum of 105 F., but lasting only twenty-four hours. Aside from this there was no postoperative symptom nor suggestion of meningeal complication.

Careful daily observation of the drill wounds was made. On the fifth day granulations began to appear in many of the holes; in other holes, granulations were delayed; and through some of the holes in the softened areas over the parietal eminences no granulations appeared at all. The granulations grew rapidly, spread out, mushroom-like, over the denuded area, and where they met they fused, thus gradually, over a course of weeks, covering the whole area. In trimming off exuberant granulations, the scissors encountered gritty resistance, as though from developing bone. The epithelium, unaided by grafts, extended from the slough edge upward over the granulations toward the dome for an irregular height of from 1½ to 2 inches. The remainder of the area over the vertex was covered in by pinch grafts, three attempts in all being necessary. Tiersch grafts, first tried, were entirely unsuccessful in this area, though successful on the back, arms and neck. It was impossible to control the child, and she destroyed many of the grafts mechanically.

Over the right parietal eminence there appeared a thickening which threatened to become a bony tumor. This stopped growing after the area covered over, and though it persists, it is not enlarging. A slight growth of hair, irregularly distributed, has appeared over the grafted area.

The child was admitted to the hospital in December, 1915, and was discharged the following July.

The Uric Acid Theory.—It is an extraordinary attribute to Alexander Haig that the curious heresy which he invented and preached should have been blindly accepted by two generations of his medical brethren, and have ultimately become an obsession with the laity. And the tribute is the more astounding from the fact that the treatment which the heresy demanded entailed, according to the hitherto accepted standards, very considerable self-denial. Moreover, the heresy appealed not only to the faddist. The sane, sober, commonsensical doctor accepted it, in spite of the fact that he had never been taught it in the schools. The awakening was a long time in coming; but it came, and now one seldom hears of uric acid, except from a patient.—Sinapis in *Medical Press and Circular.*

20. In addition to the references already given, the following will be found of interest:

Rosenheim, L.: Zur Kenntnis der infiltrierenden Colitis und Sigmoiditis, Deutsch. med. Wchnschr., 1907, **33**, 411.

Schwarz and Novascinsky: Eigenartige Röntgenbefunde von Dickdarm bei tiefgreifenden chronisch entzündlichen Prozessen, Wien. klin. Wchnschr., 1912, **25**, 1447.

McMahon and Carman: Chronic Colitis and its Roentgenologic Findings, Jour. Lab. and Clin. Med., 1917, **2**, 328.

Cripps, W. H.: Disease of Rectum and Anus, Ed. 3, 1917.

Military Medicine and Surgery

THE WAR NEUROSES

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Few subjects have attracted more attention in medical circles since the beginning of the war than the war neuroses. Each belligerent nation has been confronted with the problem of caring for large numbers of soldiers afflicted with marked nervous manifestations resulting from the strain of war.

The careful consideration of this form of nervous and mental instability was found to be of military as well as of medical importance. The military authorities wished to know how this condition might be prevented, what percentage of men would be cured and how soon, and to what degree an individual was responsible for his actions while he was so afflicted.

The armed forces of the United States must now, by force of circumstances, consider the same problem, and while much has been written concerning this matter, I believe that a description of how the condition is actually cared for in the English army at the present time may be of value.

NOMENCLATURE

There being no definite knowledge of the neurologic pathology of this disease, and the psychologic processes being largely surmise, numerous terms have been suggested. Most of these are simply an effort to suggest a name that is descriptive of a syndrome, and many of these names depend to a large extent on an individual view regarding neuroses in general.

Eder makes use of the term "war strain," and then subdivides this into groups classified according to freudian principles.

Babinski has originated the word "pithiatism" to describe a hysteroid state in which the symptoms are the result of suggestion and may be relieved by suggestion. All other forms of the war neuroses he has designated as "reflex nervous disorders," and believes that they are on the border line between functional and organic disease.

The British medical offices consider the disease as purely functional in nature, and employ the terms "shell shock" and neurasthenia" as a classification. the differentiation depending primarily on whether or not the individual has been exposed to extraordinary strain.

The statement has been made that the use of "shell shock" as a diagnosis has resulted in an increase in the prevalence of the disease, and chiefly because of this the name is not used until the patient has been carefully examined in a hospital especially devoted to the treatment of nervous disorders, and not then until information has been obtained from his unit verifying his own statement as to how his illness arose. It is conceivable that malingerers will attempt to imitate this condition when it is remembered that many men at the front suffer from mild forms of it, and that a man who wishes to shirk his duty may easily exaggerate these mild symptoms. Such cases are usually discovered either by the battalion medical officer, or at the casualty clearing station, and the men are from there returned to their units. Such, however, is not always the case, and therefore, until a decision is reached that there can be no doubt as to the genuineness of a man's complaint, he is classified as "N. Y. D. N.," or "not yet diagnosed, neurotic."

PREDISPOSING CAUSES

It should be understood that to suffer from shell shock does not necessarily stigmatize an individual as neurotic, although it is undoubtedly true that many of these patients have suffered from various forms of mental instability in civil life and that others are burdened with a bad family history. A certain number of cases occur in men whose life history evidences an inadequacy in coping with the ordinary difficulties of life. Laudenheimer states that 90 per cent. of the patients were predisposed before joining the army; Forsythe says 100 per cent.; Mott, 66 per cent.; Eder, 30 per cent. However, some of the most courageous men apparently free from all neurotic tendencies, are afflicted with this malady. The disturbance occurs among commissioned officers, noncommissioned officers and privates, and if there was a question as to the frequency of occurrence in the various ranks I would be inclined to say that a relatively larger percentage of the noncommissioned officers were affected than of the others, and yet the noncommissioned officers are men chosen especially for their bravery and dependability.

To understand shell shock it is necessary to understand the conditions under which the men live at the front. They are constantly under a strain, both from a physical and mental standpoint. For several miles behind the line there is no place of absolute safety; sleep is often out of the question, not only because of the enemy's shells but also because of the noise of their own guns. The shrill shriek of the shell is a distinctly unpleasant sound, and the knowledge that bombing experiences, such as they have already passed through, may be repeated at any time does not tend to increase their mental composure. The men often continue to dodge shells after being admitted to a hospital, so vivid is the memory of them; nor is it so very unusual for a man, dazed by his experiences, to assert that bombs were dropped near him the night before, when as a matter of fact none have fallen in the vicinity for days. Fatigue is also a very important predisposing cause. It is not unusual for a man to state that he has had very little rest for several days previous to the development of his neuroses.

It should be remembered that one of the greatest factors in the development of a neurosis is intense and frequently repeated emotion; indeed, it is very doubtful if psychoneuroses occur as the result of fatigue unless associated with intense emotion. Fear is one of the strongest of the emotions; and while it may be repressed, nevertheless it exists and exerts its influence on the individual. Connected with this will be found sympathy for fallen comrades, disgust caused by death and dirt, anger, depression, concern about the relatives at home and in the army, remorse for past conduct, and fear that one will not be able to do one's part in the future as bravely as one might wish. And all the time the soldier must necessarily smother these thoughts in his own bosom.

It is true that the men at the front are all more or less subjected to the same physical and mental strain, but it is conceivable that a psychoneurosis can be produced by stress of external conditions acting on a

mind only a degree more sensitive than that of the average person.

REPORT OF CASES

The following case histories are related in order that the picture of the condition may be made as clear as possible:

CASE 1 (No. 242939).—An infantryman, aged 35, whose civil occupation was that of a window draper, whose total service in army was eight months, and who had been in France four months, had always been of a nervous disposition. He was married, and had two children, both of whom were well. He was very fond of athletic sports. His father was a drunkard. The patient had taken part in two raids on the enemy's trenches, and was once caught in a barrage fire, but was able to carry on his duties without feeling any ill effects.

While he was in a strong point in the front line trenches, with a machine gun squad, a shell fell within 6 feet of him; his companions were killed, he was buried, and he then lost consciousness for several hours.

He complained of being nervous and jumpy, had a severe occipital headache, was partially deaf, was dizzy, his teeth were very sensitive, he was constipated, he slept very poorly in the daytime, waking up with a start, and he could not sleep at all during the night. The pulse was 100, and the respiration, 18. The heart was three-fourths inch to the left of the midclavicular line. The hands were cyanosed, the strength less than the development, there were fine tremors of the fingers, the deep and superficial reflexes were lively, and the pupils were normal in size and reaction.

This is a typical mild case. The patient returned to his unit a few weeks after admission. The next was more severe:

CASE 2 (No. 74963).—An artilleryman, aged 29, whose civil occupation was that of a blacksmith, whose total service was eighteen months, and who had been in France seven months, had suffered from a mental breakdown seven years before, during which he was compelled to stop work for a few months. The family history was negative. He had been in many dangerous places since his arrival in France, and had been repeatedly shelled. He was stepped on by a runaway horse a year before admission.

He was in the trenches for three days, during which time his position was continually under shell fire. The second day a shell fell about 10 yards from him and he was almost smothered by the flying dirt. The next day another shell burst near him; he was knocked over, became unconscious and had to be carried to the dressing station.

He complained of pain in the left side of his chest, the legs ached and felt useless, he had frontal headache, he was dizzy, weak and tremulous, there was a mist before the eyes, and there was frequent urination and excessive perspiration. The pulse was 90, the blood pressure: systolic, 116; diastolic, 80. The heart and lungs were negative, the hands cyanosed, the patella reflex was diminished, the pupils were dilated, there were photophobia and slight exophthalmos, he was dazed, and strength was less than development.

It should be noticed that the explosion of the first shell apparently did not affect him. This is often the case. A soldier may be blown up several times without feeling any ill effects, and then finally become completely incapacitated by a shell bursting near him. I have seen one patient who was knocked over five times by bursting shells within the period of fifteen minutes. A man is not always overcome at the time of an explosion of a shell near him; he may carry on his duties for several days before he finds it necessary to report sick, or he may not report sick until his condition is noticed by one of his officers, who orders him to see the medical officer.

CASE 3 (No. 13582).—An infantryman, aged 32, whose civil occupation was that of a farmer, who had been in the army three years, and in France nineteen months, had never been seriously ill in his life, and did not know what it was to feel nervous. The family history was negative. He was married and had two children. He had been in five engagements with the enemy, over the top three times, and had been wounded twice. He had been decorated for bravery.

He was selected to go on a raiding party carrying hand grenades. During this expedition a shell exploded near him, and he was partially buried. He returned to the trenches and awoke the next morning feeling queer, and found that he was weak and dizzy. Twelve hours later he fainted, became unconscious, and was carried to the dressing station.

He felt very nervous, jumped at the least noise, was dizzy, urinated very frequently, had no appetite, could not sleep, was somewhat deaf, and could not see distinctly at times. The pulse was 90, the blood pressure: systolic, 120; diastolic, 80. The hands were cyanosed, the strength was less than development, the heart was slightly dilated but otherwise negative, there were fine tremors of the fingers, and the patient had a left-sided facial tic.

This was a very stubborn case; the patient remained in the hospital over seven weeks, improving very slowly.

It is by no means necessary that a man be actually knocked over by a shell before developing shell shock. The following history is fairly typical of many cases:

CASE 4 (No. 96430).—A member of a labor company, aged 29, in civil life a mechanic, who had been in the army three years and in France sixteen months, said: "I grow very weak now; shell fire upsets me; I cannot sleep, and I have no appetite." His nerve had always been good. The family history was negative. He was married, and had three children. He had been wounded twice. The second time he was placed in a labor company, as he was not considered fit to be sent to a combatant unit. He had been in three engagements, and had been over the top twice. In 1916 a shell fell near him but it did not bother him.

He was with a party bringing up rations. The road was being shelled; shells were bursting all around him, but he was not blown over by any of them. When he returned to the camp he felt very queer, he began to tremble, and then lost consciousness for a few hours.

He was now suffering with a headache, he was very dizzy and weak, both legs ached, he urinated very frequently, his eyes ached, he slept very badly, his hands and feet felt cold, and he perspired excessively. The pulse was 118, the heart dilated, there was a functional cardiac murmur, the lungs were negative, there was exophthalmos, the hands were cyanosed, and there were tremors of the fingers, tongue and eyelids. The reflexes were lively, the pupils dilated and reacted to light slowly, the strength was less than the development, there was a positive Romberg sign, he walked on a wide base, he would fall down on turning around quickly, and he was dazed.

Quite a few men admitted into the hospital have had shell shock previously; some are recurrences and in others the patients are suffering from a second shock. Approximately 25 per cent. of the patients that I have examined during the last few months have suffered from shell shock previously. The following is the history of a soldier who had three distinct shocks:

CASE 5 (No. 5557).—A tunneller, aged 26, in civil life a contractor, who had been in the army seventeen months, and in France nine months, reported: "I have been shell-shocked again." The first shell shock occurred in 1916, and the second in February, 1917. He said he had recovered fully from both. Previous to joining the army his nerve had been good. He was married. He took an active part in all forms of sport. His mother was insane.

He was in camp when the enemy flew over dropping bombs, and while he was running to shelter a bomb fell near him and he was knocked over. He felt very weak and was carried to the medical officer. He was now suffering from a very bad occipital headache, he did not sleep well at night, but got a little rest in the daytime. If he did go to sleep at night, he was apt to wake up walking around in his sleep. He had diarrhea and had been so affected each time that he had shell shock; he was dizzy and weak, urinated very frequently, perspired excessively, and at times his vision became poor. The pulse was 128, the heart dilated, the hands were cyanosed, the strength was less than development, the reflexes were normal, the pupils normal, the eyes prominent, the skin very rough, the hair coarse, he stammered, the fingers and forearms were very long, and there were fine tremors of the fingers, tongue and facial muscles.

It is sometimes the case that a man attempts to run away from what appears to be a dangerous position and goes into one that is more dangerous, as was the case in the preceding history. I know of one officer who had suffered from shell shock previously but had recovered and was on duty in a hospital, who ran out into the country one night to escape the aeroplanes that were immediately over his hospital. While passing through a village 5 kilometers away the planes dropped bombs near him. He developed a severe case of shell shock and was carried to the base, and here again the enemy bombed the town. He was then taken to the United Kingdom and arrived there a few hours before bombs were dropped.

A soldier often recovers from shell shock, returns to duty and renders valuable service to his country. The following is an example of such a case:

CASE 6 (No. 7490).—A sergeant and pilot in the Royal Flying Corps, aged 20, whose civil occupation had been that of office boy, and who had been in the army two years, and in France, seventeen months, had suffered from shell shock twelve months before. It was so severe that he was sent to England for two months. He had fully recovered when he returned to France. He was never nervous before he entered the army. The family history was negative. He was very fond of sports. He had been a pilot since February, 1917. During this time he had been officially given the credit for bringing to the ground nine enemy aeroplanes.

In July, 1917, he was over the line doing patrol duty when his squadron was attacked by the enemy, he was cut off from the others, three planes attacked him, his observer was killed, and he came down 12,000 feet with his machine not under control. A few hundred feet above the ground he managed to gain control of his machine and effected a landing behind the British line.

He was now very weak, was unable to walk, could not even stand alone, the muscles of his face, neck, arms and thighs were constantly twitching, he had a very severe headache, his eyes ached, he felt very dizzy, and he was constantly living through the fight in his memory. The pulse was 70, the blood pressure: systolic, 110; diastolic, 70. The heart was dilated, the deep reflexes exaggerated, the pupils dilated and reaction sluggish, the strength less than development, and he was apprehensive.

This has proved to be a very stubborn case. The man has been in the hospital over nine weeks and he is improving very slowly. As I review the case histories that I have taken, I feel quite sure that those patients who have suffered from shell shock previously do not recover as a rule as rapidly as those that have had no previous attack.

It has been said that shell shock does not occur among the wounded. This, I am sure, is a mistake, but I believe that a severe case is comparatively rare among the wounded, although I have often seen wounded men in the hospitals suffering with mild forms of it.

There is yet another form of this condition which I myself have not seen, but which has been described by medical officers who are with battalions at the front. They say that death may be caused instantaneously by a shell bursting near a man, although most careful examination fails to show any cause for his death.

SYMPTOMS

I wish to emphasize the fact that shell shock is not a new disease to be added to the long list already puzzling the psychiatrists and neurologists. There is not a single new symptom to distinguish this malady, and it is certainly true that a similar complex of symptoms is frequently found in civil life. The disorder is peculiar in the acuteness of the symptoms and in the nature of the conditions giving rise to them. The war has enabled us to see examples of almost all varieties of hysterical manifestations, such as a special hospital in times of peace would only be able to exhibit in the course of years.

I have analyzed a hundred case histories in an attempt to discover the relative frequency of the symptoms, with the results given in the accompanying table.

RELATIVE FREQUENCY OF SYMPTOMS

Symptom	Percentage	Symptom	Percentage
Headache	85	Tinnitus	14
Tremors	70	Apprehension	14
Insomnia	62	Memory defect	14
Vertigo	55	Pupils dilated	12
Debility	44	Depression	12
Period of unconsciousness	41	Mutism	11
Cyanosis	35	Precordial pain	11
Hyperhidrosis	32	Stammering	10
Backache	30	Dyspnea	9
Heart dilated	29	Deafness	9
Reflexes exaggerated	28	Diarrhea	8
Tachycardia	26	Constipation	10
Appetite poor	24	Photophobia	6
Frequent urination	23	Tic	4
Eyes prominent	20	Spasticity	3
Nausea	16	Confusion	4

Besides the more common symptoms, there may be found areas of anesthesia or hyperesthesia, hysterical contractures, amblyopia, astasia abasia, hallucinations of sight or hearing, twilight states, hysterical convulsions, autopsychic amnesia, palpitation, and a tendency toward day dreaming.

These patients very often exhibit a marked impulse to flight; while they are being examined they may attempt to run away. If guns are fired in the vicinity of the hospital, or if the enemy's aeroplanes are in the neighborhood, many of them will become greatly excited. Following this excitement their symptoms are worse. After and during a bombardment, the sounds of which are heard in the distance, and although they realize that they are safe, nearly all of them complain that their headaches are much worse. They are easily startled and will jump at the least unexpected sound.

These individuals are very emotional; they might be described as being childish. They wish to be sympathized with, and very often if they are given the least opportunity, they will become lacrimose. They themselves are often at a loss to understand their condition and fear that they are going insane, and it is in such cases that the intelligent explanation of the medical officer is of great assistance.

Headache is probably the most constant symptom. It may be located over the frontal, temporal or occipital regions, but the last is the most constant and the

most troublesome. A man often complains that his head is worse when he is in a recumbent position, and it is also usually worse at night than during the day.

Insomnia is quite common. The patient may be able to sleep during the day but is unable to do so at night, although he will usually fall asleep near dawn. A sleepless night tends to make the other symptoms worse.

The cyanosis of the hands is quite noticeable. Frequently in a severe case a man's hands and forearms will be a dark purplish blue, the color resembling that seen in Raynaud's disease. This cyanosis may develop several days after the patient's admission to the hospital, and is worse in the morning than later in the day.

About one fourth of the patients suffer with tachycardia. When they are admitted to the hospital their pulse rate may or may not be rapid; but under favorable conditions, such as exercise or excitement, it will become so. Some patients are admitted who have a very slow pulse; as they improve, their pulse may become normal, or frequently after they have rested a few hours a tachycardia will develop in place of the bradycardia.

BLOOD PRESSURE

With a view of ascertaining the blood pressure, 200 patients were examined; in all, over 800 observations were recorded on these patients. Some of these patients were only passing through the hospital, so that it was possible to take the blood pressure once, while others remained six weeks and the pressure of some of these was taken on ten different occasions. Usually the observations were made under as nearly the same conditions as possible, three or four days elapsing between examinations. A record was kept of the pulse rate at the time of each examination. In deciding if the pressure was raised, the age and physical condition of the patient were considered. A pulse of a hundred or more was usually considered rapid, and a systolic pressure of 140 or greater was considered raised, although in each case an effort was made to ascertain if the physical status of the individual justified his blood pressure.

The patients were classified according to the severity of their symptoms on admission as, A, exceptionally severe; B, severe; C, moderately severe, and D, mild.

Out of sixteen exceptionally severe cases, in twelve there was a high blood pressure and a rapid pulse, in three a normal pressure and pulse, and in one a blood pressure of 110 systolic and 68 diastolic, and a pulse rate of 52. The average pressure and pulse rate for the group was: systolic, 158; diastolic, 99, pulse pressure, 59, and pulse rate, 127.

In a group of twenty-nine severe cases, in twenty-two there was a blood pressure above normal, and in nineteen of these a rapid pulse. The average for the group was: systolic, 144; diastolic, 85; pulse pressure, 59, and pulse rate, 90.

There were sixty-six cases classified as moderately severe; in forty-eight of these the blood pressure was raised, and in twenty-eight there was a rapid pulse. The average for this group was: systolic, 135; diastolic, 88; pulse pressure, 47, and pulse rate, 90.

There were ninety-nine mild cases; in twenty-nine of these the blood pressure was raised, and in fourteen there was a rapid pulse. The average for the group was: systolic, 125; diastolic, 81; pulse pressure, 49, and pulse rate, 85.

It was difficult to draw any reliable conclusions from these observations, other than to say that the blood pressure and pulse rate in the severe cases were usually higher than in the mild cases; that there was a noticeable vasomotor instability in most of the cases; that as the condition of the patient improved, the blood pressure and pulse rate usually fell, and that the blood pressure was more persistently high than was the pulse rapid. It was noticed that the milder the case the quicker the blood pressure fell, and that convalescence took longest in those cases in which the blood pressure was persistently high. However, there were severe cases in which blood pressures and pulse rates were never above normal.

The effect of fright on the symptoms was very noticeable. The following is an example:

Case 7 (No. 68974).—A patient, aged 26, on admission, Aug. 12, 1917, could not walk or speak. The blood pressure was: systolic, 160; diastolic, 100; the pulse rate, 140. August 13, his condition was improved; the blood pressure was: systolic, 156; diastolic, 100; the pulse, 140. August 14, he had recovered the use of his voice and of his legs; the blood pressure was: systolic, 150; diastolic, 100; the pulse rate, 120.

August 21, six hours after an air raid, he was too weak to walk, and he stammered when he talked; the systolic pressure was 180, diastolic, 100, and pulse rate, 170. The blood pressure and pulse remained persistently high after this, and he was finally transferred to the base.

SYPHILIS

At one time it seemed desirable to know if syphilis played any part in producing the war neuroses. Therefore a Wassermann test was made in fifty consecutive cases of shell shock seen at the hospital. Seven cases out of fifty, or 14 per cent., gave a positive reaction. The spinal fluid was positive in three of these cases, although there were no symptoms suggestive of cerebrospinal syphilis.

This percentage of positive serums and spinal fluids is probably higher than is usually found among civilians, but the findings would not justify the conclusion that syphilis plays a part in causing shell shock.

TREATMENT

The treatment outlined here is simply a description of the methods of handling these patients in the two hospitals in which I was stationed. However, I believe that they are the methods in general use.

The patients are admitted, bathed and sent to the receiving ward. They are then examined and assigned to other wards; this has been always done within eighteen hours after admission to the hospital. At the time of the examination the following form is filled out:

Date. Name. Age. Civil occupation. Occupation in Army. Service in Army. Service in France. Adaptability to service. Family history (briefly).

Personal History: Education. Illnesses. Married or single. Active participation in sports. (Attempt to form some idea of the individual's personality.)

Previous Strain: Decoration for bravery, participation in raids, wounds, effect of shell fire, comrades recently killed, trouble at home.

Shell Shock: A complete story of what happened to him, where he was, what he was doing, and when it was. This is very important, for these facts are sent to his commanding officer for verification.

Symptoms: Headache, backache, weakness. Dizziness, dyspnea; nervous tremors, spasmodic movements, etc.

Physical Examination: This must be carefully made, for it is often necessary for the medical officer to state definitely whether or not the man is malingering.

Summary as to the severity of the case.

Treatment.

The patients are assigned to wards according to the severity of their condition. Cases of the same kind are grouped together, with the exception of the stammerers.

Military discipline is never relaxed for an instant in a shell shock hospital. The patients are not allowed to leave the grounds without a pass. These men are seen each day by a medical officer who makes a note on their record of their condition, prescribes the necessary treatment, and disposes of them as their condition justifies it.

Drugs are of very little use in treating this condition. Barbital (veronal) is sometimes given for insomnia. Acetylsalicylic acid and also phenacetin are given for the headache. Bromids may quiet the patient for a while, but from my experience I do not believe that they are of much value. Digitalis appears to have very little effect on the pulse rate.

In the acute cases, several hours in a hot bath seems to be more beneficial than almost anything else. A man who says he has not slept for several nights will relax and go to sleep while in the bath, and probably sleep soundly for eighteen hours afterward, usually awakening much improved. The hot bath is especially good in the cases of mild hallucination and for those markedly apprehensive patients who lie curled up in a ball under the cover, as well as those whose thigh, leg and back muscles are spastic.

The patients should be reassured, the nature of their condition should be explained to them, and the medical officer should do everything possible to secure and keep their confidence, for many of these men remind one of children who must be taught to walk, to talk, and to adjust themselves to their environment.

Practically the same methods are employed as in civil practice in teaching the stammerers to talk. They are taught to breathe properly, to pronounce consonants and vowels, and finally to repeat simple sentences.

I have not seen a shell shock mute who failed to recover his speech; but the longer he has been mute, the more difficult it is to get him to talk. It is important that, once one attempts to make a man talk, one should not desist from the effort until one succeeds; otherwise the patient will become confirmed in his opinion that he cannot talk. The quickest and most effective method, though it may appear brutal, is to stimulate the patient with a faradic current, rapidly increasing its intensity, having explained to the patient beforehand that there is nothing the matter with his voice, that he can talk, and that the strength of the current is going to be increased until he does talk. As the current becomes stronger the man will begin to squirm and will either immediately recover his voice or will make some sound, a long "Oh!" being the most frequent. In the latter case he is told that if he can make any sound at all he can talk; and the stimulation is continued until he does talk. This method is very effective and will work when all others fail, but it is open to the criticism of being brutal.

Another very successful method is to instruct the man to cough; if he cannot cough, his pharynx is tickled and he is made to cough. Then he is instructed to cough out an "ah," then "a," then "oh." He can usually then be made to pronounce these sounds without coughing. Then with a little encouragement he will repeat the alphabet, then simple words like "mama" and "papa," and so on until he can talk; but this is often a very long and difficult process to carry out. Hypnotism has been advocated, and so has the anesthetizing of the patient to the stage of excitement. Both are fairly successful.

I have seen hypnotism used in treating the symptoms of these patients with more or less success, but I do not believe that the claims of the advocates of hypnotism are justified.

A patient who says that he cannot walk is made to get out of bed and take the hands of the physician, who teaches him to walk in much the same way that a baby is taught.

Those patients who are not recovering from their hysterical symptoms are frequently stimulated with the faradic current, for it is undoubtedly true that many of these patients cannot see the need of hurrying their recovery, when they realize that as soon as they are well they will be returned to the front.

As soon as the patient is strong enough he is made to take physical drill, and as his condition improves, the exercises are made more difficult. They are also sent on long route marches daily. Besides this exercise they are encouraged to play cricket, golf, tennis, football, to swim and to take part in the track sports. Other amusements are furnished in the form of concerts, cinema shows and reading rooms.

As the patient's condition begins to improve, a long, confidential talk with the medical officer will often do much to hasten recovery.

DISPOSITION OF PATIENTS

If it is decided that a man will need careful treatment for several months, he is usually sent to England; otherwise he remains in France.

As the patient's condition improves and he becomes strong enough to leave the hospital, he is sent to a special convalescent camp, where he remains for several weeks before returning to his unit.

In some of the mild cases the men are practically well in a few days, and are returned to their units forthwith.

A man who has had several recurrences is usually unfit for the line, and he is often given work to do at the base.

It has been found beneficial to send patients out on farms to work rather than to convalescent camps. A man is in better condition to return to his unit after a month on a farm than after the same length of time spent in a convalescent depot.

Review of Public Health Work.—The year book of the Indiana State Health Department for 1917 contains a review by the secretary, Dr. J. N. Hurty, of public health work since the passage of the first health law in 1881. Efforts to establish a state board of health and laws under which it should operate were begun in 1855 in the Indiana State Medical Association, and it is to the organization that Dr. Hurty gives credit for all subsequent legislation. The efforts in 1855 failed, and not until 1875 was a committee appointed on state board of health. This committee drafted a bill which was introduced but failed in the legislature of 1875, and it was only in 1881 that the first law was passed and the board created. The latter made its first report in 1882. The law was amended in 1891 and again in 1909, and the state now has a board and a set of health laws and a health organization that is in the front rank among all the states. Among the important pieces of health legislation now on the statute books are a quarantine law, passed in 1903; a pure food and drug law, 1907, amended in 1911; a law for the prevention of infant blindness, 1911; laws enacted in 1913 relating to vital statistics, sanitary schoolhouses, public water supply, clean milk cans, public playgrounds, establishment of sanitary districts, housing plans, false advertisement law, schoolhouse recreation centers, and child neglect, and amended in 1915; also, among many others, an antituberculosis law passed in 1915.

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VOLUNTARY REGULATION OF THE HEART BEAT

The frequency of the heart beat, which expresses itself in the pulse rate, is one of the various vital phenomena over which conscious control is not ordinarily exercised. There may be marked differences in the pulse rate found in different individuals without their having any pathologic significance attached to them, although the newer studies in nutrition, notably those of F. G. Benedict at the Boston Nutrition Laboratory of the Carnegie Institution of Washington, have tended to show a surprising parallelism between pulse rate and the intensity of metabolism. It is well known that the heart beat is quickened by warmth and diminished by cold applied to the surface of the skin of the vagus. The act of swallowing causes a reflex increase in heart rate by inhibition of the tonic action.

The function of the nervous system in the control of the frequency of the heart beat is familiar to every student of medicine. He has seen the inhibitory effect of vagus stimulation, the abolition of the tonic influence of the vagus by injury to the nerve or destruction of its center, and the augmentor effect of stimulation of the accelerators of the heart. Such demonstrations are experimentally produced effects. There are, however, published records of thirteen persons who possessed the power to accelerate their heart beat at will, the earliest authentic account dating back to 1872.[1] The newest case, in the person of a skilled observer,[2] has been carefully studied with a view to ascertaining the nature of the mechanism of acceleration. The uncertainty regarding this has wavered between the possibility of a removal of vagal influences, or of a primary action through the accelerator nerves, as the explanation of the voluntary acceleration. In the instance of Favill it begins almost immediately after the subject has willed it to begin, and as soon as one second after the command is given by the observer. The acceleration does not reach its maximum at once, several beats occurring before the high mark is attained. The degree of acceleration is greater, the stronger the impulse and the fresher the condition of the subject. The greatest acceleration recalled was an instance in which the pulse rate rose from 104 to 200, this paroxysm lasting for thirty seconds. According to the subject, it seems impossible to describe the sensations attending the production of the acceleration any more than one can describe the conscious effort in voluntary movement of the arm. With the onset of the tachycardia there is a feeling of "fulness" or tingling over the whole body. A mild exhilaration follows in a few seconds, and moderate fatigue results if the paroxysm is induced several times successively, or for any period longer than a very few seconds. The acceleration is dependent on a distinct effort of the will, and the strain is as tiring as that produced by holding up a heavy weight; it is not a succession of efforts, but one that is continuous. Distinct relief is felt with the cessation of the acceleration.

The physiologic investigation of this subject showed that with the onset of the acceleration there is no apparent change in the situation of the "pacemaker"—that collection of peculiar muscular tissue in intimate relation to the nerves entering the heart, and from which the normal beat is now believed to arise. The changes in the electrocardiographic deflections during the acceleration are those that are known to occur when the sympathetic nerves are stimulated experimentally. The ability to accelerate the rate of the heart beats persists after the suppression of vagus action by atropin. The evidence available suggests that the voluntary increase of the heart rate is the result, in great part at least, of the action of the accelerator nerve mechanism, and that it is not due solely or chiefly to the withdrawal of vagal action.

1. Tuke, D. H.: Illustrations of the Influence of the Mind upon the Body in Health and Disease, Designed to Elucidate the Action of the Imagination, London, 1872. Tarchanoff, J. R.: Arch. f. d. ges. Physiol., 1885, **25**, 109. Pease, E. A.: Boston Med. and Surg. Jour., 1889, **120**, 525. Van de Velde, T. H.: Arch. f. d. ges. Physiol., 1897, **66**, 232. Koehler, M.: Ibid., 1914, **158**, 579.

2. Favill, J., and White, P. D.: Voluntary Acceleration of the Rate of the Heart Beat, Heart, 1917, **6**, 175.

MEDICAL PRACTICES IN SOME PHILIPPINE PROVINCES

The history of medicine shows that at practically all stages of civilization, and among the most diverse types of races, man gradually learned by experience to appreciate the effects of certain agencies for good or harm in relation to his own person. In his story of the growth of medicine from its earliest period, Buck[1] has portrayed how the powers of observation and the reasoning faculty presumably have been applied to the avoidance of bodily dangers and the relief from physical suffering. Buck suggests how man "gradually learned that cold, under certain circumstances, is competent to produce pain in the chest, shortness of breath, active secretion of mucus, etc., and his instinct led him, when he became affected in this manner, to

1. Buck, A. H.: The Growth of Medicine from the Earliest Times to About 1800, New Haven, 1917.

crave the local application of heat as a means of affording relief from these distressing symptoms. Again, when he used certain plants as food he could scarcely fail to note the facts that some of them produced a refreshing or cooling effect, that others induced a sensation of warmth, and finally that others still, by reason of their poisonous properties, did actual harm. Sooner or later, such phenomena as nausea, vomiting and diarrhea would also be attributed by him to their true causes. In due course of time his friends and neighbors, having made similar observations and having tried various remedial procedures for the relief of their bodily ills, would come together and compare with him their several experiences; and so eventually the fact would be brought out that the particular method adopted by one of their number for the relief of certain symptoms had proved more effective than any of the others. Thus gradually this isolated community or tribe of men must have learned how to treat, more or less successfully, the simpler ills to which they were liable."

To us living in what we delight to designate an age of enlightened progress, the story of "trial and error" has a primitive ring. We scarcely realize, until we are brought face to face with the actual experiences, that even today much if not most of the oriental medical art or practice still partakes of the pristine character. Whether it be in India or China, folklore and superstition are mingled with tested procedures in the healing arts. Exhortation of spirits, incantations, acupuncture and cauterization find a place only in a system in which modern pathology is unknown. Yet in our own provinces in the Far East we may still find elaborate instances of a sort of medical practice that can vie in primitiveness with the procedures of centuries ago.

One need only read the first of a series of reports on the local medical practices in the Department of Mindanao and Sulu, Philippine Islands, to verify this statement.[2] The customs in Cotabato, the largest province in area in the islands, are said to be characteristic of the practice of the Mohammedan (Moro) population. Disease is attributed to a variety of causes, such as poison, hunger, wind, sun, unfulfilled customs, promises or oaths, and animalcules; but the most frequently alleged causes are malignant spirits. To avert the influence of the unkind or harmful incantations of another, the Moros place under the mattress of their beds a goat skin with various colors, and offer a prayer before going to bed as well as after leaving it. The mode of establishing the prognosis in disease seems decidedly simpler than the elaborate information that our own judgment of the probable outcome demands. It is found by opening the Koran and determining the hour, day, month and tide in which the disease began. A disease that begins with high tide is liable to be serious, whereas one that begins with low tide is more likely to be mild. Thus there is something lunar, if not lunatic, in the prognosis.

The treatment of diseases among these people, according to Gomez, is a mixture of religion, superstition, and medicine concocted by the medicine man from plant forms. In addition to this his therapeutics include prayers and cabalistic signs. Amulets are freely used. The prescriptions for curative potions are too elaborate to be repeated here. The directions for the management of malaria will suffice as an illustration. Thirty leaves of yerba buena having the letter *alip* written on them are used to rub the body. Furthermore, bamboo shoots are to be cooked in water, honey is to be added, and the mixture drunk. Gomez states that no surgery is performed by the tribes he has studied. They have no idea of infection, and seem to regard pus as a natural secretion of a wound. An abscess is treated by means of hot water or fomentations of some sort; subsequently the point is opened and tobacco or fine shavings of coconut stalk are applied to drain the pus. The Maguindanaos understand, however, how to pull and medicate carious teeth. To the latter they apply ginger and salt heated together and placed while hot in the cavity. They can even put on crowns of gold and silver which silversmiths manufacture. The transmission of communicable diseases is favored by the ignorance of the people, their unhygienic surroundings, poor nutrition, personal habits and frequency of travel. Religious sanctions add further difficulties. Here, indeed, are problems that tax the ingenuity and patience of the modern sanitarian to the utmost.

2. Gomez, L.: Mohammedan Medical Practices in Cotabato Province, Philippine Jour. Sc., (B), 1917, **12**, 261.

INTESTINAL INTOXICATIONS IN INFANCY

If some semblance of an orderly and logical conception of the possible nature of the so-called intestinal intoxication, or diarrhea with toxic symptoms, in infants is beginning to arise out of the chaos of past uncertainties, we owe it largely to the more exact methods of recent clinical study. Phenomena suggesting toxicity and occurring in association with profound nutritional disorder in infants have long been recognized; but mere empiric observations, and routine measurements of pulse and temperature, casual inspection of stools, and manipulations of diet have not promoted any noteworthy advance in the understanding of a clinical entity. It is due to the persistent and often little appreciated efforts of a small group of investigators in the domain of pediatrics, notably in American laboratories, where successful methods have been so skilfully developed in the past few years, that substantial progress is being recorded.

If this statement needs to be justified, let us consider a few of the recent contributions with reference to their pertinence. In one of the latest experimental

studies of intestinal intoxication, Schloss[1] has written:

> There is a close analogy between intestinal intoxication and uremia. Indeed, all of the evidence points directly to the fact that their nature is essentially the same. In uremia the kidney fails to fulfil its proper function, owing to an anatomic lesion. In intestinal intoxication the same result is brought about through loss of fluid. Waste products normally excreted by the kidneys are retained because there is insufficient water for diuresis.
>
> Similar to uremia, based on symptomatology, there are two groups of cases of intestinal intoxication. In one group convulsions, involuntary muscular movements, muscular twitching and coma are present. The onset is usually acute and the infant is not greatly emaciated. Diarrhea may be slight and is absent in some cases. Food or water is usually refused and is vomited if taken.
>
> In the second group the onset is less acute, but occurs following vomiting and diarrhea of some days' duration. Convulsions rarely occur and the infant is somnolent or semistuporous instead of comatose. Wasting is very marked and the patient presents the shrunken appearance which is so characteristic of great loss of fluid.

The negative water balance of the body and the consequent oliguria particularly found in children, in whom the losses of water through vomiting and diarrhea may be unexpectedly large, have received all too little attention because they were not accurately ascertained and thereupon adequately appreciated. Part of the new evidence consists in the now well established demonstration of a marked increase in the nonprotein nitrogen and urea of the blood in infants suffering from typical intestinal intoxication. At first thought one would naturally ascribe this to an impairment of renal function as the result of kidney lesions. Schloss is not inclined to accept such an explanation. In his judgment the character of the urine examined in such cases does not justify the assumption of severe anatomic lesions. That these are no longer to be regarded as the sole criteria of kidney malfunction in infancy is further supported by Howland and Marriott's[2] study of acidosis occurring with diarrhea. They, too, note that in severe diarrhea the urinary secretion may be markedly diminished even to the point of complete anuria, the kidney becoming functionally more or less inactive, even though no organic changes may be present.

Aside from a definite kidney lesion, the most probable cause of the retention phenomena appears, as Schloss has argued, to lie in a depleted water supply of the body. In corroboration of this it is known that water is a most effective diuretic; and latterly it has been found that the proper administration of water is an efficacious method of combating some of the severe nutritional disorders of infants. In attempting to explain the deficient secretion of urine on a new basis, Schloss argues thus:

> The oliguria may be due to the fact that the dehydrated tissues hold as much water as possible so that none is available for the formation of urine. Other factors, dependent mainly on the loss of water, which may play a rôle are: (1) an increase in the concentration of blood colloids to such degree that their osmotic pressure is greater than the arterial pressure in the kidney; (2) a diminution in the total blood volume leading to decreased blood flow through the kidney.

What, then, is the significance of the acidosis that has been associated so clearly with such diarrheal disorders in infancy? Howland and Marriott[2] assert that it is not due to the presence of acetone bodies; nor has it been shown to be due to the loss of a base, that is, alkali depletion in the strict sense. Schloss agrees with them in the conclusion that the acidosis which is exhibited in intestinal intoxication is due to defective secretion, probably of acid phosphate, by the kidneys.

The improvement that occurs after the administration of sodium bicarbonate may, then, have a twofold explanation. In part it may be due to a direct correction of the acidosis by alkali; in part, furthermore, the associated intake of water may contribute to betterment. In any event, it seems quite rational to replace water lost in the consequence of the symptoms already referred to. The vomiting and diarrhea often prevent its administration by the conventional methods through either mouth or rectum. At Howland's suggestion, Blackfan and Maxcy[3] of the Johns Hopkins Hospital have tested the possibilities of intraperitoneal injections of saline solutions. They recognize the technical difficulties of any intravenous procedure; and the subcutaneous method is rejected as slow and unreliable in respect to the extent of actual absorption. The intraperitoneal procedure requires great care and strict aseptic precautions; but in the hands of skilled manipulators the results are reported to be highly satisfactory.

1. Schloss, O. M.: Intestinal Intoxication in Infants: The Importance of Impaired Renal Function, Am. Jour. Dis. Child., March, 1918, p. 165.
2. Howland, John, and Marriott, W. M.: Acidosis Occurring with Diarrhea, Am. Jour. Dis. Child., May, 1916, p. 309.
3. Blackfan, K. D., and Maxcy, K. F.: The Intraperitoneal Injection of Saline Solution, Am. Jour. Dis. Child., January, 1918, p. 19.

THE ORIGIN OF PROGRESSIVE MUSCULAR DYSTROPHY

Progressive muscular dystrophy must at present be classed among the relatively uncommon disorders of man. Despite a group of frequently described clinical symptoms, including dryness and abnormal pigmentation of the skin, brittleness of the hair, hypertrichosis, trophic changes in the nails, unusual distribution of the subcutaneous fat, and both hypertrophy and underdevelopment of the genitalia, in addition to the muscular phenomena, the cause of these manifestations has not yet been unraveled. At one time it was customary to assign the etiology of muscular dystrophy to a defect in the nervous mechanism through the innervation of which the contractile tissue is set and maintained in activity. Neither a purely nervous origin nor a causal factor limited to the muscle structure itself can be defended as affording a complete explanation of the disease. The accompaniments of

what might be interpreted as defects of either the muscular or the nervous apparatus of the body are too varied and significant to permit so simple a statement of the pathology of muscular dystrophy.

Quite independently, two groups of American investigators[1] have recently expressed the belief that muscular dystrophy may originate as a result of abnormal functioning on the part of endocrine organs. To substantiate this hypothesis, certain accurately ascertained facts have been marshaled. In the cases observed at the Montefiore Home and Hospital, New York, Janney, Goodhart and Isaacson have reported the following disturbances: marked decrease in the preformed creatinin in the urine, abnormal presence of creatin in the urine, low values of creatinin in the blood, normal amount of creatin in the blood, hypoglycemia and delayed glucose utilization. McCrudden of the Robert B. Brigham Hospital, Boston, has emphasized these features: low blood sugar, and, following suitable treatment, a rise in blood sugar accompanied by an increase in strength; creatinuria; low cholesterol content of the blood — three independent testimonies, as he says, of disturbed carbohydrate metabolism.[2]

It is asserted, with not a little justice, that practically all the clinical symptoms and metabolic signs already referred to have been observed in well known hypofunctional conditions of the ductless glands. The lowered content of sugar in the blood has, indeed, repeatedly been associated with such conditions, for example, in the hypoglycemia of dyspituitarism.[3] One might reasonably ask whether the hypoglycemia is not a consequence of the disuse of muscles and a consequent "lessened requirement for carbohydrate." From studies of McCrudden and Sargent[2] the answer seems to be in the negative; for in the somewhat similar condition of progressive muscular atrophy the blood sugar was found to be normal. The New York investigators are further inclined to charge the excretion of creatin, always an unusual metabolic result in the adult, to an insufficient supply of carbohydrate in the muscles. As we have occasionally pointed out, however, the interrelations of creatin-creatinin metabolism and carbohydrate transformations in the body are as yet by no means clear.[4]

The hypothesis as portrayed by McCrudden is suggestive in many ways. The facts, he concludes, indicate that the myasthenia of progressive muscular dystrophy is due to hypoglycemia; that the hypoglycemia and fatty infiltration are due to impaired glycogenesis, the carbohydrate of the food being probably changed largely to fat instead of glycogen; and that this impaired glycogenesis is the result of suprarenal or other endocrine disease. Realizing the complexity of the manifestations, and appealing to analogies in other diseases that involve growth, adiposity or defective bone formation, Janney, Goodhart and Isaacson go even further. We must face the possibility, they declare, of muscular dystrophy and perhaps other so-called primary myopathies being in reality merely syndromes caused by deficient function, not of one but of various endocrine organs separately or coincidently affected.

1. Janney, N. W.; Goodhart, S. P., and Isaacson, V. I.: The Endocrine Origin of Muscular Dystrophy, Arch. Int. Med., February, 1918, p. 188. McCrudden, F. H.: The Nature of the Pathologic Process in Progressive Muscular Dystrophy, ibid., p. 256.

2. McCrudden, F. H., and Sargent, C. S.: Hypoglycemia and Progressive Muscular Dystrophy, Arch. Int. Med., April, 1916, p. 465; Chemical Changes in the Blood and Urine in Progressive Muscular Dystrophy, Progressive Muscular Atrophy and Myasthenia Gravis, ibid., February, 1918, p. 252.

3. Cushing, Harvey: The Pituitary Body and Its Disorders, Philadelphia, 1910, p. 130.

4. What Conditions Determine the Excretion of Creatin? editorial, THE JOURNAL A. M. A., March 10, 1917, p. 784; Creatin and Creatinin in Blood, Aug. 25, 1917, p. 648.

Current Comment

THE NEED OF MEDICAL OFFICERS FOR THE ARMY AND NAVY

As one reads the reports of the war conference of the secretaries of the state medical societies held in Chicago recently and published in THE JOURNAL beginning with last week's issue, it becomes quite apparent that one reason why physicians are not volunteering for the Medical Reserve Corps is a lack of information. This includes a lack of information relative not only to the actual needs of the government services, but also on matters relating to the individual himself. This is borne out by the hundreds of letters that are being received at THE JOURNAL office. The writers ask for information regarding the needs of the service, the pay of officers, the cost of equipment, the duties, the arrangements for the care of dependents, the disposition of leases, insurance — in fact, on almost every subject. A great many have even detailed all the personal facts concerning themselves and have asked THE JOURNAL to make the decision as to whether they should enter the service. THE JOURNAL is not able to make the decision, but it has been trying, both by letters and in the columns of THE JOURNAL, to supply the information asked for. As to the needs: The fact is that the Surgeon-General of the Army is calling for 5,000 more volunteers for the Medical Reserve Corps and that the Surgeon-General of the Navy is asking for 100 volunteers a month for that service, or until he has another 1,000 medical reserve officers. The fact that officers of the Medical Reserve Corps in some communities have not yet been ordered to active duty has caused other physicians not yet in the service to believe that there is no need for more medical officers. This impression is erroneous. While it is true that the present and immediate needs are supplied, there is need for an adequate reserve and that need is urgent. It is for this reserve that the Surgeon-General is now appealing to the profession. Let every reader ask himself the question: Is it my duty to volunteer? And then let him answer it honestly.

A MILITARY MEDICAL SURVEY

The first step in the campaign to secure additional Medical Reserve Officers is to ascertain the conditions in the various parts of the country, i. e., to know the proportion of physicians to the population, the number of physicians in a community who are available so far as age is concerned, the number who are already in the service, and the needs of the civilian population. When these and similar facts are known, there will be dependable information available for systematic and logical procedure in securing the number of physicians needed to supply the demand. Such a survey is in course of preparation by the Association; it will give the number of physicians in every county and large city in each state, the number of physicians under 55 and under 45 years of age, and the number and names of those who are now commissioned. It was hoped that it would be ready for publication before this time. However, a survey such as is in preparation is a difficult and tedious task; it requires not only the compilation of a vast amount of data, but also much checking and verification. This survey will appear in THE JOURNAL for May 25 or June 1. It will show what each county has done, and will undoubtedly reveal that many communities have supplied more than their quota, while many have not done their share. Meanwhile, it is obviously unnecessary for any one who desires to volunteer for the Medical Reserve Corps to wait for the publication of this survey. Application blanks, lists of examining boards and information will be sent on request.

INFORMATION REGARDING MILITARY MEDICAL SERVICE

Many physicians are hesitating about applying for a commission in the Medical Reserve Corps; they are anxious regarding the care of their families. Even the pay of a lieutenant in the Medical Reserve Corps, $2,000 per year, with commutation, if he has dependents, of from $400 to $600 per year, while not sufficient to support some families in the style to which they have become accustomed, at the same time is far from a starvation income. It should be distinctly attractive to the physician without dependents. As THE JOURNAL stated two weeks ago, the physician who volunteers for the Medical Reserve Corps today is volunteering under different conditions than existed a year ago when our country entered the war. Recent constructive legislation has removed many of the obstacles that confronted the physician at that time. Of course, while commenting on the material aspects of the matter, we realize that patriotism and a desire to help win this war will certainly overweigh what sacrifices may have to be made in this regard. Application blanks, a list of examining boards and information will be sent on request.

Recognizing the Rights of Children.—The higher a nation stands on the stage of culture and civilization, the stronger is its race consciousness, the more clear its recognition of its duty to future generations, and the more pronounced and emphatic its assertion of the rights of children as members of society.—*Public Health* (Mich.).

Association News

WAR CONFERENCE OF SECRETARIES OF THE CONSTITUENT STATE ASSOCIATIONS OF THE AMERICAN MEDICAL ASSOCIATION

Held at the Headquarters of the American Medical Association, April 30, 1918

(*Continued from page 1306*)

Below are continued the reports of the state secretaries at the war conference held in Chicago, April 30. The reports of the states in alphabetical order from Alabama to Missouri appeared last week:

MISSOURI

Dr. E. J. Goodwin, Missouri, said: Missouri makes it unanimous so far as inability to accomplish anything harmoniously or coordinately, so far as definiteness of information is concerned. In spite of such difficulties, however, we have obtained our quota of applicants. I do not think they have all been commissioned. In St. Louis some work is being done, but not by the state organization. There has been no work conducted by the state organization in any part of the state. The state secretary has endeavored to include the state association in his work, but has never been able to get out the work through the state association, because the information given out from Washington is often inaccurate and has to be corrected; so we ceased giving it out. In Jackson County there has recently been a successful campaign conducted under Dr. McAlester, and that was done through the cooperation of the Jackson County Medical Society. It is well for us to know how it has been done in all the states. I should like to hear from all the states what the past has been, and then we can judge as to what the future work may be and how we can go about it.

When the announcement came from the Surgeon-General that he desired and was anxiously hoping to have the cooperation and assistance of the American Medical Association and the state and county societies, a great sigh of relief went up from more than one man in the state of Missouri, because we believe that anything that comes from the American Medical Association has been well digested and has the advantage of knowledge of conditions in every part of the country; and a knowledge of the individual characteristics of pretty nearly every doctor in the country, and what is done will be done with justice to all. And this is what we want to formulate, so that in future the things to be done by the medical profession will be done with accuracy and justice to all of us.

The chairman introduced Dr. A. W. McAlester of Kansas City, formerly secretary of the Missouri State Medical Association, who said: We have been fortunate in having Dr. Jabez N. Jackson a member of our advisory board. Dr. Binney was the chairman of our local council of physicians, but was called into service at a base hospital. I was connected with the aviation service and he asked me to take over the work. He told us that he wanted everything the government had asked of physicians. We prepared a questionnaire which is practically the same as the blank the government sends out to applicants for the Medical Reserve Corps. We added to that inquiries about the number of dependents, the amount and conditions of personal indebtedness, whether any of his dependents had an income, whether there was income from other than professional sources, etc. We looked for authority for this, and found that the act of Aug. 20, 1916, gave the government the right through its Council to ask physicians these questions. That act is very much like the constitution of the American Medical Association. We can spread it out to cover almost any activity. We sent out notices published in THE JOURNAL, with the telegram from the Surgeon-General stating the need for 8,000 physicians, along with this questionnaire. We appointed a man in each ward who saw every man in his district, presented him with the list of interrogatories, and had these turned in in five days. And we have them. We are now prepared to tell you the status of every physician in Kansas City. We are in a position to draft them. What they are willing to do, we know. The town has been thoroughly cleaned up.

MONTANA

Dr. E. G. Balsam, Billings, said: I think there are too many committees doing the same work. If I should tell you all the committees of which I am secretary, I would tire you. As long as the American Medical Association is so well organized, there is no better body of men able to take care of this thing without friction, and do it in an efficient manner through the different state organizations, and they in turn through the county societies. We do not need any more committees. Each one of us in each county is able to do the work, and he is the man on whom we can depend, and our reports may be returned to the secretary of the American Medical Association. We have in Montana forty-seven counties, only sixteen of which are organized and thirteen thoroughly organized; so you can see what a proposition it is to handle the state of Montana. Our difficulty is how to get the physicians from the cities to enlist and to meet the men who are in the country places in their respective towns. We have one city in which fourteen men have enlisted, and since fourteen men have gone, ten men came in from the country to fill the positions these men occupied in the cities. We need these men in the country towns because there are counties in Montana with an area of 5,000 square miles without a physician. How can we best get a man there and keep him busy and satisfied? We must arrange to keep men in these places. At our last annual meeting, through the efforts of the Council of National Defense and through the state organization working continually, we passed a resolution unanimously favoring conscription or the selective draft of physicians in our state. Every man of the 125 in our meeting rose to his feet when the resolution was passed.

NEBRASKA

Dr. Joseph M. Aikin, Omaha, said: It is fruitless for me to state the situation in Nebraska other than to refer to the remarks of the previous speaker with reference to conditions in his state, and also to what was said by the secretary of the Michigan State Medical Association. In Nebraska we have only fifty-three or fifty-four counties out of possibly ninety-four or ninety-three that are organized, and the great question asked of the state secretary by medical men is, What am I to do? When shall I be called after I have my commission? Another question asked is, Why do you ask for another 5,000 physicians plus 2,000 when a number of the men in Nebraska commissioned are not being called? We have been up in the air between the work of our state association and the taking of orders from the Council of National Defense at Washington and the Nebraska State Medical Society Council to know just how we should work with a multiplicity of committees. Our State Council of Medical Defense, Medical Section, has done practically nothing in Nebraska. I have not known just why. The consensus of opinion in Nebraska is, that now is an opportune time for the American Medical Association to take its stand in a cause in which our services are so much in demand, in order that the work to be done by medical men shall be intelligently done and propagated through the office of the American Medical Association in Chicago. We feel that as a result of this conference between the committee from the Board of Trustees of the American Medical Association and the state secretaries, whatever resolution is introduced here and adopted as the consensus of opinion of the best body of medical men that can be gathered together in the United States or in the world should be handed to the state secretaries of the United States as the plan of action for medical associations. Let each secretary take the matter up with his county secretary, adopting their own line of procedure, going right back to the unit of our organization, the county society.

NEVADA

Dr. M. A. Robison, Reno, said: There has really been nothing done in Nevada on an organized basis. The medical defense had one meeting and organized; we had another meeting and there were only three present. That is all that has been done in an organized way. Dr. Sinclair was commissioned and has examined other volunteers throughout the state. He reports to me that he has examined thirty-two, and several of them have received their commissions, he thinks. I notice from the report of the secretary of the American Medical Association that there are twenty-nine who have been given commissions. A report I received two days ago states that there are nineteen in the active service. Our state is much like Arizona, only more so. I believe we should work for a change in the appointments and ranks, and that this thing should be put under the direction of one man. Have the secretary of the county society or let the secretary of the state association designate who will do it; get up the questionnaires and report to the American Medical Association and let a man be called before the committee and say, "We want you."

NEW HAMPSHIRE

Dr. D. E. Sullivan, Concord, said: I attended a county meeting of our society last Friday, and at that meeting I found out where our state stood from the official bulletin at Washington. That thing demonstrated to me that a physician can belong to the parent society, be secretary of the state society and secretary of the state committee of national defense, as I am, and yet not be able to keep in touch with the men who are going into the service. The only information I have is what I pick up here and there. It is necessary that a secretary should know what men have gone into the service and those who have not. It is difficult by means of appeals to get some men to enter the service. They hear all kinds of reports of men being in camps, lounging about with nothing to do. I am satisfied that good results must come from direct personal appeals. With the American Medical Association at the head, it must be thoroughly and efficiently supplemented through the efforts of local men who come in close cooperation, hand to hand, with the men whom we need.

NEW JERSEY

Dr. Thomas N. Gray, East Orange, said: New Jersey has been gone over with a fine tooth comb to raise the quota established by the state through the efforts of the Council of National Defense, Medical Section, and the committee of the state society. The chairman of that committee is one of the vice presidents of the society, and the secretary of the state society is a member, so that there is no clash between local defense and state defense. They left me to plan out a line of procedure. In my office as secretary of the state committee I sent out questionnaires and circular letters. I have written questions to young practitioners and have made it my business to go into their offices to find out that the questionnaires I sent them were thrown into the waste paper basket, and I said, "What is the use, they do not read them," Let us devise some plan by which we can approach these men. We have divided the work in this way: I, as secretary of the state society, would appoint a meeting for the county society, and as secretary of the state committee of national defense, I would arrange meetings in private local societies where we would meet the men who are not members of the state society. In our state we have 1,750 members out of 3,000. We can reach in the county societies other men we could not reach in the local society. We have visited all county and local societies repeatedly with officers from the department at Washington. We had no trouble in the rural communities if there was one more man that could go. Our trouble was to get a number of men in the big cities. In addition to appealing to those men, we went out, each in our own counties, and did all we could by personal work. I have had conversations with 450 young men in the late twenties and early thirties who I know have not had and cannot have in the whole of their practices of a few years an income to exceed $1,500, and most of them not more than $700. It is our conviction that every man in New Jersey who is willing to give his services to the government has enlisted, and if we are to get any more men from New Jersey we will have to conscript them. I believe the only way to get the men will be sooner or later to conscript them. If the American Medical Association through its influence cannot induce them to join the service, then as secretary I will take off my coat and use a finer tooth comb; but I do not believe I shall be successful.

NEW MEXICO

Dr. R. E. McBride, Las Cruces, said: New Mexico occupies the same position as Arizona. Out of 440 and odd physicians in New Mexico, 40 per cent. are sick men, and another proportion of them are men who have gone there with some members of their family sick, some of them bedridden. According to the *Bulletin*, New Mexico has 210 members of county societies, and among that number there are 198 in good standing in the state society. Forty per cent. of them are either over age or sick, so that when it comes to the eligibles for military service, the figures do not quite give the exact condition of affairs. There are not over 125 men in the whole state of New Mexico who are fit for the work of the service. Out of those 125 there have been fifty-four commissioned, but they have not all accepted their commissions.

To give you an idea of some of the conditions we have to contend with, take the county from which I hail (Dona Ana County). We have sixteen men in the county, eleven of whom are ill or over age. Three of those over age may be ill. Out of the remaining five, four have been commissioned. Two have accepted their commissions, and two have not. Why, I do not know. I believe that in the state of New Mexico today, with the proper agency, we could secure probably sixteen or more recruits for the service. I myself am heartily in favor of making one final personal appeal. I believe, however, that the personal appeal would be more effective if backed up by some force from the national government.

NEW YORK

Dr. Floyd M. Crandall, New York, said: Soon after the beginning of the war the governor instituted a medical staff, and the adjutant-general gave it official force, with certain laws back of it, so that a census was carried out in a most thorough manner. A very thorough questionnaire was sent out; at the same time, the medical branch of the New York State Committee of National Defense began a campaign of education both by literature and by men. They sent half a dozen men through the state to address small and large societies. They not only spoke to men, but also came in close contact with them and got enlistments right there. The whole committee, fifty of them, were scattered all over the state. The committee did not stop with that questionnaire. We adopted a method which I think was used elsewhere, but I have not heard it spoken of. As soon as the questionnaires were completed, they were assorted and every man of proper age, who was certain that he had 10 per cent. surgical work, had his questionnaire sorted out. These different men were brought up and considered, and it was impressed on them that what was said was to be confidential, and they were to tell the truth about the men they knew in their locality, such as the personal character of the men, their professional ability, how they stood in surgery, what their executive ability was, and the amount of experience they had had. They took up the question of adaptability, because that is important. Some men were marked down because they were cantankerous and could not get along with others. They were reduced in position. The question came up whether a man did or did not use gloves in operating. All these points were considered in connection with the acceptance of men for medical service. New York state has approximately 14,000 physicians, and of this number there are 8,068 in the state society. The committee believes there are 143 now available for service. Our quota is given here as 17 per cent. We have done very well because of the large foreign population and because New York is the most mixed up of any state in the world, and there are hundreds of men not available. The Italian physicians have gone with their own army, and French physicians have done likewise. Five hundred additional men are required for the Army and 500 for the Navy from our state. About two weeks ago the committee started sending out letters. It has sent out 4,550 letters in the last four or five days, and enlistments are coming in at the rate of from thirty to forty a day. We believe in ten days the new quota will be filled.

NORTH DAKOTA

Dr. H. J. Rowe, Casselton, said: North Dakota is a state of magnificent distances, and as a consequence we have some counties that have no physicians. We have four component societies in the entire jurisdiction, and some of these societies have a large number of members. For instance, the Northwestern Society has eighty-seven members in the profession within its jurisdiction. When I received a notice to attend this meeting, I at once got in touch with the local secretaries, so that I might present accurately before this conference the exact condition of our state and people. I have been secretary of the state medical association, and also secretary of the National Council of Defense, Medical Section, so that I can reach these people without any trouble. From the Northwestern Society of the state we have six men in the service; three men are ready to go. Five men are in the service from the city of Minot, leaving eight to do the business. Every man of us is willing to go, barring those who have physical disabilities or who on account of age cannot be taken. Unfortunately, I have never been able to ascertain the number of our men who are in the service. I know the number that are recommended, but have not been able to secure the names of those who are actually in the service, so I cannot tell whether we have our quota or not.

(To be continued)

Medical Mobilization and the War

Military Information Asked

The War Department needs, for intelligence purposes, photographs, drawings, picture post cards, and descriptions of bridges, buildings, towns and localities occupied by the German army in France, Belgium and that portion of Germany lying west of a line running north and south through Hamburg. As it will not be practicable to return this material to the owners, it will be considered as a gift to the government, and should be sent to Col. A. B. Coxe, U. S. Army, 1156 Fifteenth Street, Washington, D. C.

Medical Officers Wounded in Action

According to a letter received by the wife of Capt. Frank H. Hearst of Guilderland Center, N. Y., members of the medical unit to which he was attached on the Somme in the great battle during the month of April were all captured or killed with the exception of a major and the captain himself, who was wounded in the hand.

Capt. Howard H. Davis, M. R. C., U. S. Army, Cleveland, was slightly wounded, March 21. He was cited for bravery under fire a few days before.

Dr. Daniel E. Berney, Scranton, Pa., who has been serving with the British Expeditionary Forces in France, is in a hospital in London recovering from slight wounds.

Capt. John B. Nutt of Williamsport, Pa., who is serving with the British Expeditionary Forces in France, is reported to have been slightly wounded in action.

Rehabilitation of Returned Disabled Soldiers

Senator Smith of Georgia has introduced into the Senate a bill (S.4284) to provide for vocational rehabilitation and return to civil life of disabled persons discharged from the military or naval forces of the United States. The persons entitled to this attention shall be such as are entitled to compensation under the war risk insurance law, who are unable to resume their former occupations successfully. If the Federal Board of Vocational Education, which shall have direction of the courses, considers them entitled to it, they shall have the prescribed course of reeducation, and at the same time shall remain in the military or naval forces of the country under the direction of the board. During the course they shall be entitled to receive pay equal to the monthly pay of their last active service, and allowances shall also be made for their dependent relatives as designated in the war risk insurance law.

Personnel of the Medical Department

For the week ending May 3, 1918, the personnel of the Medical Department of the Army included:

MEDICAL CORPS: 843, including 1 major-general, 65 colonels, 110 lieutenant-colonels, 297 majors, 1 captain and 369 lieutenants.

MEDICAL RESERVE CORPS: 18,773, including 1,252 majors, 4,584 captains and 12,937 lieutenants. On active duty: 16,552, including 1,170 majors, 4,158 captains and 11,224 lieutenants.

MEDICAL CORPS, NATIONAL GUARD: 1,205, including 19 lieutenant-colonels, 246 majors, 150 captains and 790 lieutenants.

MEDICAL CORPS, NATIONAL ARMY: 114, including 3 brigadier-generals, 12 colonels, 91 lieutenant-colonels and 8 majors.

DENTAL CORPS, 209; DENTAL RESERVE CORPS, 5,232, of whom 1,405 are on active duty; DENTAL CORPS, N. G., 257; VETERINARY CORPS, 17; VETERINARY RESERVE CORPS, 1,449, of whom 774 are on active duty; VETERINARY CORPS, N. G., 46; VETERINARY CORPS, N. A., 439; SANITARY CORPS, 1,145, and AMBULANCE SERVICE, 158, constitute the remainder of the commissioned personnel.

The DISCHARGES in all branches of the service to date are:

Causes	Number			
	M.R.C.	M.C.N.G.	D.C.N.G.	San.C.
Physical disability	630	46	7	7
Inaptitude	242	18	0	1
Other branches	487	62	7	57
Resignations	109	45	5	8
Domestic troubles	59	1	0	1
Needed by community	47	1	0	0
Dismissed	6	2	0	0
Deaths	63	3	0	1
Duty completed	1	0	0	0
No reason	14	0	0	0
Good of service	0	0	0	1
	1,658	178	19	76

THE NEW MILITARY SERVICE BILL OF GREAT BRITAIN AND ITS RELATION TO THE MEDICAL PROFESSION

The question of the supply of medical officers for the British army has been one of tremendous seriousness. With a numerical strength of physicians approximately one fifth of that of this country and with a much larger army, the securing of a sufficient number of medical officers has been a severe drain on the profession. A new medical service bill fixes the age of compulsory military service at from 18 to 55, inclusive, subject to provisos as follows:

(a) If it appears to His Majesty at any time that it is necessary so to do for the defence of the realm, His Majesty may, by order in Council, declare that the foregoing provisions shall, as respects men generally, or as respects any class of men, have effect, as from a date to be specified in the order, as if any age specified in the order not exceeding fifty-six years were therein substituted for the age of fifty-one years; and

(b) as respects any person being a duly qualified medical practitioner, the foregoing provisions shall have effect as if the age of fifty-six years were therein substituted for the age of fifty-one years.

Clause 2 of the act gives power to declare by proclamation that a national emergency has arisen and that any certificates of exemption to any class or body of men shall cease to have effect.

In an editorial the *British Medical Journal* reviews what has been done to secure medical officers for the British army:

THE BRITISH MEDICAL JOURNAL'S EDITORIAL

"The introduction of the new Military Service Bill and the special provision which it contains with regard to medical men makes it opportune briefly to recall the steps by which the present situation, so far as it specially affects the medical profession, has been brought about. The annual general meeting of the British Medical Association in Aberdeen had ended a few days before the outbreak of war, so that the association had no special machinery in existence for dealing with the emergency. The War Office immediately called up the medical officers of the Special Reserve, and the medical officers of the Territorial Force belonging to the combatant units were mobilized with those units. Medical officers *à la suite* of the Territorial general hospitals were mobilized as those hospitals were got ready. With the regulars and reemployed regular officers the total number of medical officers obtained from these sources was about 4,000, and nearly three fourths of them were withdrawn completely or in part from the civil profession. At the same time an appeal was made for volunteers, one of the terms being that the volunteer undertook to serve if required for at least twelve months, with the right then to relinquish his commission. The response to this appeal produced about 1,140 by the end of 1914, and about 2,700 by the end of 1915. The first step spontaneously taken by the organized body of the profession to meet the emergency disclosed by the German advance into Belgium and Lord Kitchener's appeal to the manhood of the country was taken at the instance of the late Dr. Hamilton of Hawick by the Scottish Committee of the British Medical Association. By September the Scottish Medical Service Emergency Committee, consisting of representatives of Scottish universities and medical corporations and the British Medical Association, had been formed. In England and Wales preliminary arrangements were undertaken by committees of the British Medical Association, which reported to the annual meeting in 1915, when the Central Medical War Committee was constituted. It was instructed 'to organize the medical profession in such a way as will enable the government to use every medical practitioner fit to serve the country in such a manner as to turn his qualifications to the best possible use, and to deal with all matters affecting the medical profession arising in connection with the war.' Local Medical War Committees were set up throughout England and Wales to act with the Central Medical War Committee and to advise it as to local conditions and as to practitioners in the localities who could most easily be spared. The Committee of Reference of the Royal Colleges in England was set up early in 1916 to consider cases of doctors on the staffs of hospitals and medical schools in the metropolis, and such other special cases in England and Wales as might be referred to it. An Irish Medical War Committee was also established. Schemes were instituted by the Central Committees in England and Wales, and in Scotland, for the enrolment of all medical men up to the age of 45, the limit for general service in the R.A.M.C. The enrolled person gave an undertaking to accept service when called upon by the committee, and the Army Council undertook to apply to him the principle that a medical man thus offering himself should not be called upon to fulfil his obligation of commissioned service for more than twelve months consecutively.

"The passing of the second Military Service Act, 1916, had the effect of imposing compulsory service on all medical men under 41. The central medical committees, thereafter called 'professional committees,' were recognized by an Order in Council, and were entrusted with the duty of selecting at the right time in each case the particular medical men who could be spared from their civil work with least injury to the civil population, and of retaining in their civil work those most needed there in the public interest. The Army Council undertook to refrain from applying its compulsory powers as to combatant service to a doctor of military age if, and so long as, he was enrolled and undertook to serve, and if required did serve, as a commissioned officer in the R.A.M.C. whenever this might be found necessary by the central professional committee. When called on he was given the right of appeal to the central professional committee. If at the end of the first or any twelve months' service a medical man relinquished his commission, he, if under 41, remained liable to the Military Service Acts, but if he then enrolled he reverted to the position in which he was before he took a commission; that is to say, he went back amongst those from whom the central professional committees selected doctors for commissioned service in the R.A.M.C., subject to due consideration of the needs of the locality and his personal circumstances. The enrolment scheme continued to apply to doctors over military age, especially those from 41 to 45, and in June, 1916, shortly after the passing of the second Military Service Act, the War Office announced that it was prepared to give commissions in the R.A.M.C. to medical men between 45 and 55 willing to undertake whole-time general service in the United Kingdom. Incidentally it should be noted that newly qualified medical men automatically passed into the Reserve, and were commissioned in the R.A.M.C. (S.R.), subject only to their being pronounced physically fit on medical examination.

"On the establishment of the Ministry of National Service recruiting in all its branches was transferred from the War Office to that Ministry, and medical recruiting became especially the care of its medical department, with which the professional committees have been in communication throughout.

"At present temporary R.A.M.C. officers of military age on expiration of their contract are required, if they renew, to engage for the duration of the war. If an officer, however, does not wish to renew he retains his right of appeal to the professional committee, which, in deciding whether or not he should rejoin, takes into consideration the needs of the civilian population of the locality in which he practices and his personal circumstances. It is to be noted that medical officers of military age intending to relinquish their commissions after Oct. 31, 1917, were warned that they would probably be recalled shortly.

"The first clause of the new bill fixes the military age at from 18 to 51, but there is a proviso that by an Order in Council the upper limit of age may be raised to 56 as respects men generally, or as respects any class of men, and it shall be so fixed "as respects any person being a duly qualified medical practitioner." Clause 4 gives power to make regulations by an Order in Council to establish "special tribunals, committees, or panels for dealing with particular classes of cases," and to determine the grounds on which application may be made to the tribunals and the rights of appeal.

"The Central Medical War Committee, at its meeting on April 10, decided, after full discussion, not to press for the insertion of any amendment in the bill now before Parliament in so far as it relates to registered medical practitioners. It is felt that the older men who will now become subject to military service will in most cases serve their country best by placing themselves at the disposal of the central professional committees for medical work, in a military or civil capacity, which will release younger practitioners for active service. The method, no doubt, will vary according to local and individual conditions, but it would seem that schemes for local arrangements would produce less dislocation of practice than any general plan of long-distance substitution between the areas which are relatively understaffed and those which are more plentifully supplied with doctors. Although the total number of medical men who may be made liable to military service under the bill is large—between 6,000 and 7,000—it is unlikely that any considerable proportion would be called on; if this is so, only a minority would be directly affected.

"In the altered situation which will be brought about by the enactment of the bill, the Ministry of National Service will, doubtless, desire to remain in the closest collaboration with

the Statutory Professional Committee. But it is probable that henceforward the decision on the indispensability of individual practitioners, or on questions of priority, will rest ultimately in the hands of the Ministry. The fullest use will, no doubt, be made of the advice and opinion of the professional committees, but, as in the case of all other tribunals, the last word will be said by the Ministry of National Service. In this respect the legal position will be changed, though it is not anticipated that in practice any conflict will arise between the professional committees and the Ministry."

A CORNER OF THE GREAT BATTLEFIELD

An American Surgeon in the Midst of Things

THE JOURNAL has received from Major George de Tarnowsky a description of the activities of the hospital to which he was attached during the recent drive. In the letter accompanying his statement he says:

For four days we had the hospital full of Tommies; since that time the French have taken over the sector and we are doing advanced surgery on all severe "nontransportable cases," a rare opportunity to do major war surgery. Of the battle itself, events are still too recent to dare even mention a word about it. Suffice it to say that the English put up a splendid fight against overwhelming numbers. It was a close call for two or three days, but the hole is plugged up and we have confidence that the leak will not recur again. The spirit of the troops is magnificent.

FRANCE, April 12, 1918.

To the Editor: The great battle which began in the early morning hours of March 21, '18, found the Ambulance des Alliés with some two hundred wounded, seventy-five of whom were American, one of our divisions occupying a nearby sector jointly with the French.

In order to have all available beds possible at our disposal, the latter were evacuated on Paris by train and from thence by ambulance to U. S. Base Hospital at Neuilly. The French wounded were sent to the interior by train. All stood the journey very well. A few of the patients recently operated on were kept for a subsequent evacuation.

An atmosphere of tense excitement and uncertainty surrounded us. We knew that the thinly held British line had been overwhelmed by sheer weight of numbers and that the Tommies were falling back, making the enemy pay dearly for his gains. Just where the retreat would end was anybody's guess. The highway in front of the hospital was a seething mass of soldiers, artillery, munitions, etc., speeding north to check the invasion; an equally dense, infinitely pathetic mass of civilians were trekking south. Baby carriages, wheelbarrows, two and four-wheeled carts and carriages of all sorts passed before our eyes in an apparently unending stream. These poor people had just begun to live their lives over again, amidst familiar surroundings, when the stern necessities of the battle forced them, for the second time in four years, to abandon their homes and fields in order to seek shelter elsewhere.

Two girls, both under 20, stop in front of the operating room windows and lean against the parapet to rest. Taking turns, they had trundled a wheelbarrow, on which was a single black trunk, for miles along the dusty road. They, at least, will not fall in the hands of the Boche! An old grandmother pushes a baby carriage in which a pretty 4-year-old girl sits, clutching a wooden doll in her hands, while at her feet is a wicker basket containing a hen and its chicks! In a two-wheeled cart lies an infirm grandfather, with a goat and calf for company, while his daughter walks beside the horse's head and three boys tramp behind, clinging to ropes which dangle from the vehicle! The pictures are pathetically funny, and one tries to laugh—in order not to cry—for men have learned to cry in this war; cursing is inadequate to express the feelings which surge within!

Wounded, both English and French, began arriving on the morning of March 24; the earlier signs of military confusion had ceased, and the French had jumped into the breech, while the English, worn out by the terrific onslaught, but still full of fighting spirit, fell back on the town of ..... to reform. It was a magnificent exhibition of team work, carried out in the very midst of a desperate battle for the road to Paris! Three divisions against eleven, and the eleven could not get through!

LOCATION OF THE HOSPITAL

Without mentioning names of places, a short description of our location will explain the immense importance of this hospital during the battle. The first great rush brought the battle line seven miles north of us. We occupied almost the apex of a triangle, the base of which represented the battle line, the two sides two converging valleys along which the Boche hoped to push on to Paris. Had he been able to pour down either valley, our retreat toward Paris would have been cut off, as the junction of the two rivers takes place three miles south of the hospital grounds.

With no railway lines, bridges or canal locks within a mile, and no munition depots within three miles of us, we enjoyed a reasonable degree of security from shell fire or aerial bombs. The tiny village did, however, shelter troops who were constantly billeted there, and a long-range battery installed three hundred yards from the hospital barracks put us in real danger. The guns, most fortunately for us, only remained twenty-four hours, departing before the Boche avions had a chance to photograph their location. Shell fragments, bullets, and even pieces of shell casings from our own antiaircraft guns sprinkle the roofs and grounds about us, but this small diversion has been of almost nightly occurrence for the past month and we have grown accustomed to the avion raids. The vicissitudes of the great battle thus made us the nearest surgical formation in this sector, capable of operating on all "nontransportable" cases. Owing to their exposed position, all the large hospitals east and west of us had been compelled to evacuate on the second day of the battle.

The fact that only two surgical teams, one French, one American, were attached to the hospital when the attack began, was a serious handicap, but the American Red Cross promptly sent reinforcements, with a supply of food and four motor trucks, the latter placed at our constant disposal in case a hasty evacuation became imperative.

By Monday, March 25, the war news was so conflicting, yet so generally discouraging, that the directress of the hospital very suddenly ordered a general evacuation. At 2 o'clock, on the morning of March 26, everybody was awakened and told to be dressed in ten minutes! The peculiar arrangements and combination of circumstances which allowed a civilian directress to order a military evacuation, are not germane to this letter, and will, therefore, not be mentioned. Suffice it to say that the French staff and personnel obeyed said order to the letter.

Approximately one hundred and fifty patients were transferred by ambulance to the hospital boat belonging to this formation, with the French staff and personnel and all of the nurses, the evacuation consuming four hours. As the boat was docked in the canal, a mile from the hospital, the transfer was extremely rapid and easy. Needless to say, there was no opportunity for cleaning up the wards or even storing away any of the material. Chaos and confusion were left behind.

THE HOSPITAL MOVED—NOT

Major John J. Moorhead, M.R.C., U.S.A., and myself, not being under the direct orders of either the directress or the French Service de Santé, expressed our firm desire and intention of remaining behind. There was plenty of work ahead of us; the Chief Surgeon A. R. C., under whose orders we were detailed for temporary duty, had not ordered us to evacuate, and we both felt that we could make a quick getaway if the military situation absolutely demanded our taking such a step.

Our request was granted. One patient, suffering from a lesion of the left femoral vessels and pelvic peritonitis, was left behind. By 6 a. m., March 26, the staff and personnel of the hospital consisted of Major George de Tarnowsky, M.R.C., U.S.A.; Major John J. Moorhead, M.R.C., U.S.A.; Corporal Bonne, French Service de Santé; Corporal Brandinière, cook; Mme. Louis, kitchen helper; Louis, blind retainer; and Jean Legros, gardener.

The two French surgeons envy us our good luck; there is, however, plenty of work for them to do on the boat, as many of the wounded are evacuated before operation. The nurses, English, Irish, Canadian and American women, without a single exception, volunteered to remain with us; we unfortunately had no military authority over them and they were compelled to go with the French staff.

Mme. Louis, fearful lest her blind husband be left behind if we have to evacuate, makes me repeatedly promise that he will be put in one of the A. R. C. trucks. She, on the other hand, swears that she will put her chickens in a crate so that we can have fresh fowl to eat all the way to Paris! Neither husband nor chickens must be allowed to fall in the hands of the Boche!

Left to our own resources, Major Moorhead, Corporal Bonne and I prepared forty beds, sterilized several sets of instruments and stored away the uniforms, arms, etc.,

which had been left behind. We fortunately have a large supply of sterile dressings, cotton and bandages.

Using the A. R. C. supplies which had been left under our charge, we distributed corned beef, cheese, crackers, chocolate, etc., to scores of hungry soldiers who passed the hospital gates. The cook presided over this distribution with much gusto, adding coffee or wine from the hospital stores.

Wounded soldiers began to arrive early in the afternoon, and we prepared to operate on the urgent ones. At 6 p. m., Capt. Peter M. Keating, M.R.C., U.S.A., very opportunely arrived from Paris and was immediately impressed. The electric plant having been disconnected, candles, stuck on a wooden board, and two lamps served for lighting purposes. This compels us to use chloroform instead of ether anesthesia. From 7 p. m. to 4 a. m., we three surgeons performed twenty-six consecutive operations. The A. R. C. truck drivers were impressed as stretcher bearers and orderlies, while Corporal Bonne attended to the sterilizing. At 10 p. m., several American volunteer nurses, belonging to what is known as Mrs. Daly's equipe or team, arrived from Compiègne and immediately rendered invaluable assistance.

We had barely retired for a few hours' sleep when at dawn of March 27, several A. R. C. officials drove up with very alarming news, advising us to evacuate immediately! All of the cases operated on were loaded in ambulances and trucks and taken to Compiègne, five miles south of us, where they left on the last sanitary train, all the hospitals in that town having received orders to close up and depart.

Before coming to any decision regarding our small, therefore very mobile, staff, Major Moorhead and the writer drove to the hospital center of Villers-s/Coudon, three miles northwest of the Ambulance des Alliés. The C. O. informed us that he had already received three evacuation orders and as many counter-orders, the last one to the effect that he must evacuate all wounded, but that his hospital would continue to receive slightly wounded cases; the latter, however, were not to be operated on but merely dressed and put on a sanitary train. We were assured that any further evacuation orders would be transmitted to us by courier, as our phone had been cut; this promise was most welcome and reassuring.

After holding a consultation with Major Moorhead, we decided to stay. Late in the afternoon, our French C. O., with the two French surgeons, returned from the boat which they had left below the Compiègne bridges. With fourteen volunteer American nurses and two surgical teams, we were able to operate steadily throughout the day and night.

At 3 a. m., March 28, a courier from Villers-s/Coudun Hospital arrived, with a message from the C. O. to the effect that he had just received orders to evacuate all wounded and prepare to retire with his supplies and personnel. While our French C. O. went to army headquarters nearby for final orders, the wounded were prepared for evacuation and sent to the boat which had docked in the canal, eight miles south of us. Returning from headquarters, our C. O. reported that we would be allowed to remain at our post for the time being, but that there should be a daily evacuation of all wounded after their operation. Our canal hospital boat, propelled by its own steam and fitted up with seventy bunks and a small operating room, had been in commission about six months, rendering good service. Its utility, during the battle, was considerable. For instance, on March 24, in the thickest of the fight, it went up the canal to Noyon and came back with 180 wounded, seventy of whom were "lying" cases, the balance being able to sit here, there and everywhere, above and below decks. During two of the "en masse" evacuations from the hospital, forty-six operations were performed on board the boat by the French surgical team.

March 28 and 29, the operations continued steadily, one surgeon at a time managing to get a few hours rest. A second American team, consisting of Capts. Charles Farmer, Philip Wilson and First Lieut. Thomas S. Hardy, all M. C., U. S. R., arrived from Paris. Unfortunately, Captain Keating was recalled to Paris so that, during the absence on the boat of the French team, we were still reduced to two operating teams, with a spare surgeon for stimulations, dressings, etc. On this same date, March 29, seven of our nurses returned, and the Mrs. Daly equipe departed. While new wounded continued to tax our operative capacity to its utmost, the general news of the battle became more reassuring; the Hun flood had been brilliantly dammed. We began to keep our operated cases until all danger of secondary hemorrhage or sepsis had passed, only evacuating when our nursing capacity was absolutely overtaxed.

Owing to our nearness to the firing line, the entire nursing staff, for the boat and hospital, was kept down to twelve nurses and their matron, with some thirty French orderlies. This personnel enabled us to hospitalize as many as seventy-five severely wounded cases at a time, but no more.

By Wednesday, April 3, we had definitely organized three operating teams, working turn and turn about in ten hour shifts. A ten-hour shift was decided on in order to give each team an equal number of night hours in the operating room, admissions being heaviest after nightfall. When not operating, we received, diagnosed and prepared cases, dressed our own cases and rested whenever we could.

Early in the battle, our trunks and lockers had been sent to Paris for safe keeping and, with the contents of a suitcase for our entire wardrobe, we lived from day to day, stripped for the surgical fight which it is our lot to wage. For almost two weeks we had no postal service; at present we occasionally receive mail and can write about the weather and the safety of our persons to the loved ones at home.

Distractions abound; not a day passes without several aerial fights; bombardments start up at all hours of the day and night and we keep wondering whether Fritz will not drop a shell or bomb "by mistake" on our modest Red Cross group of buildings!

While Major Moorhead and I have tabulated all of the cases which have passed through our hands, there has been no opportunity to classify the operations and results. Suffice it to say, for the present, that during the first great rush, i. e., from March 25 to April 3, when the three teams began their regular schedule, 149 operations were performed, with a total mortality of six cases. Two of the six were moribund on admission, no operation being possible; of the remaining four, two were intrathoracic and two intra-abdominal wounds with profuse hemorrhage. One hundred and three operations were performed at the hospital; forty-six on the boat.

Just how long this emergency is to continue, nobody knows. We intend sticking as long as there are wounded to succor and our orders remain unchanged. That we shall still be operating in the same hospital when this letter reaches you, is the earnest wish of

GEORGE DE TARNOWSKY, Major, M. R. C., U. S. Army.
Chief Surgeon, Ambulance des Alliés.

ORDERS TO OFFICERS OF THE MEDICAL CORPS AND OF THE MEDICAL CORPS OF THE NATIONAL ARMY

To Camp Grant, Rockford, Ill., base hospital, from Camp Sheridan, Major GEORGE W. JEAN.

To Camp Wadsworth, Spartanburg, S. C., as assistant to camp surgeon, from Madison Barracks, Major SIDNEY L. CHAPPELL.

To Fort Jay, N. Y., for physical examination to determine his fitness for active duty, Major CHARLES W. FARR.

To Fort Schuyler, N. Y., for duty, from Camp Hancock, Major J. MARKWOOD PETERS.

To Fort Slocum, N. Y., for duty, from Governors Island, Lieut.-Col. CHARLES Y. BROWNLEE.

To Fox Hills, N. Y., for duty, from Hoboken, Lieut.-Col. HENRY H. RUTHERFORD.

To Governors Island, N. Y., for duty, from Fort Slocum, Col. FRANCIS M. C. USHER.

To Rockefeller Institute for instruction in chemistry, from Army Medical School, Lieut. CYRUS B. WOOD.

To Washington, D. C., for consultation and on completion *to his proper station*, from Hoboken, Col. JAMES M. KENNEDY; from Fort Porter, Lieut.-Col. THOMAS D. WOODSON for conference, and on completion *to his proper station*, from Camp Lee, Lieut.-Col. THOMAS L. RHOADS.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp Gordon, Atlanta, Ga., base hospital, from Army Medical School, Lieut. MONTE LER. MOORER, Mt. Vernon; from Camp Upton, Lieut. JOSEPH M. WELDON, Tallassee.

To Camp Jackson, Columbia, S. C., for duty, Lieut. JAMES L. BOOTH, Buhl.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. JAMES H. PHILLIPS, Dora.

To Fort McPherson, Ga., for temporary duty, from New York City, Major WESLEY E. DRENNEN, Birmington.

To Fort Oglethorpe for instruction, Lieuts. CHARLES E. TEDDER, Emsley; WILLIAM C. HANNON, Mobile; MILNER H. ESKEW, Selma.

To Newport News, Va., for duty, Lieut. JOHN P. COCHRAN, Catchie.

To Sacramento, Calif., Mather Field, Signal Corps Aviation School, from Camp Kelly, Capt. JOHN R. OSWALT, Union Springs.

Honorably discharged on account of physical disability prior to entrance into the service, Lieut. CHARLES W. BRASFIELD, Linden.

Arizona

To Camp Cody, Deming, N. M., base hospital, Capt. JOHN E. BACON, Miami.

Arkansas

To Camp Jackson, Columbia, S. C., for duty, Capt. ELMER E. HOLT, Mena; from Fort Oglethorpe, Lieut. HERBERT S. WATSON, Earl.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieuts. BOULANGER GWALTNEY, Haskell; JAMES M. BEST, Monticello.

To Fort Oglethorpe for instruction, Lieuts. OSCAR BARKSDALE, Bassett; FELTON W. LANDRUM, Driggs.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. THOMAS M. FLY, Little Rock.

California

To Camp Crane, Allentown, Pa., base hospital, from Camp Travis, Major JAMES R. MOORE, Los Angeles.

To Camp Fremont, Palo Alto, Calif., for duty, Lieut. FRANK M. LAWSON, Willows.

To Camp Gordon, Atlanta, Ga., for duty, from Camp Doniphan, Capt. AMBROSE E. EDGERTON, Stockton.

To Camp Hancock, Augusta, Ga., base hospital, from Camp Bowie, Lieut. THOMAS R. PETCH, Eureka.

To Camp Kearny, Linda Vista, Calif., base hospital, Capt. GEORGE G. HUNTER, Los Angeles; Lieut. SAMUEL J. MATTISON, Pasadena.

To Camp Lewis, American Lake, Wash., base hospital, Lieuts. EDWIN H. McMILLAN, Pasadena, Walter C. Smallwood, Richmond.

To Camp Pike, Little Rock, Ark., base hospital, from San Francisco, Capt. MORTON R. GIBBONS, San Francisco.

To Camp Wheeler, Macon, Ga., base hospital, from Fort McHenry, Capt. HOWARD C. NAFFSIGER, San Francisco.

To Fort Riley for instruction, Capt. WILLIAM V. CHALMERS-FRANCIS, Los Angeles; Lieuts. WILLIAM R. McDANNELL, Los Angeles; ROY H. PARKINSON, San Francisco.

To New York City, Orthopedic Hospital, for instruction, from Army Medical School, Capt. ERNEST W. CLEARY, San Francisco.

To Rockefeller Institute for instruction in laboratory work, from Camp Fremont, Lieut. L. J. SCHERMERHORN, Stockton.

Canal Zone

To report to the Governor, Panama Canal, for duty, Capt. LEWIS B. BATES, Ancon.

Colorado

To Camp Cody, Deming, N. M., base hospital, Capt. WALTER F. CHURCH, Greeley.

To Camp Fremont, Palo Alto, Calif., for duty, Lieut. FRANK DUNKLE, Denver.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Logan, Lieut. TOM R. KNOWLES, Colorado Springs.

To Camp Wadsworth, Spartanburg, S. C., base hospital, from New York City, Capt. LEWIS H. McKINIS, Colorado Springs.

To Newport News, Va., for duty, from Fort Riley, Lieut. VIVIAN E. PENNOCK, Longmont.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to his proper station*, from Camp Doniphan, Major HARRY S. FINNEY, Denver.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Camp Shelby*, Hattiesburg, Miss., base hospital, from Fort Riley, Capt. THOMAS A. STODDARD, Pueblo.

Connecticut

To Camp Sheridan, Montgomery, Ala., to examine the command for nervous and mental diseases, from New York City, Capt. WILLIAM R. MILLER, Southington.

To Camp Upton, Long Island, N. Y., as orthopedic surgeon, from Army Medical School, Lieut. LEVERNE HOLMES, Manchester.

To Fort Ontario, N. Y., for temporary duty, Capt. PHILIP D. BUNCE, Hartford.

To Governor's Island, N. Y., for duty, Lieut. GEORGE P. CHENEY, New London.

To Newport News, Va., for duty, from New York City, Capt. JOHN B. GRIGGS, Hartford.

To Rockefeller Institute for instruction, in the treatment of infected wounds and on completion *to Camp Gordon*, Atlanta, Ga., base hospital, from Camp Upton, Major WILLIAM F. VERDI, New Haven. On completion *to Camp Logan*, Houston, Texas, base hospital, Lieut. ROBERT F. SCHELL, New Haven.

District of Columbia

To Camp Crane, Allentown, Pa., base hospital, from Dansville, N. Y., Capt. CHARLES S. ROBBINS, Washington.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieut. VIRGIL B. WILLIAMS, Washington.

To Fort Oglethorpe for instruction, Capt. CHAUNCEY L. BARBER, Washington.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion *to Camp Hancock*, Augusta, Ga., base hospital, from Fort Oglethorpe, Lieut. WILLIAM H. NORTON, Washington.

Florida

To Camp Fremont, Palo Alto, Calif., for duty, from Camp Lewis, Capt. JAMES D. PASCO, Jacksonville.

To Camp Gordon, Atlanta, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM S. GRAMBLING, Miami.

To Camp Greene, Charlotte, N. C., base hospital, from Camp McClellan, Capt. JOHN D. MACRAE, Tampa.

To Camp Wheeler, Macon, Ga., base hospital, Lieut. EDGAR E. STRICKLAND, Hawthorne.

To Fort Oglethorpe for instruction, Lieut. CAREY T. ROGERS, Jacksonville.

To Newport News, Va., as orthopedic surgeon, from Army Medical School, Capt. JOHN W. ALSOBROCK, Plant City.

Honorably discharged, Lieut. JOEL W. HOOD, Ocala. On account of physical disability existing prior to entrance into the service, Lieuts. OVEDIA F. GREEN, Mayo; JOHN T. BRADSHAW, San Antonio.

The following order has been revoked: *To Camp Gordon*, Atlanta, Ga., for duty, Capt. JOHN S. TURBERVILLE, Century.

Georgia

To Americus, Ga., for duty, from Fort Oglethorpe, Capt. JOHN M. SPENCE, Camilla; from Atlanta, Lieut. JAMES M. J. LUKE, Fitzgerald.

To Camp Dix, Wrightstown, N. J., as orthopedic surgeon, from Fort Oglethorpe, Lieut. KENETH S. HUNT, Milner.

To Camp Gordon, Atlanta, Ga., base hospital, Capt. HANSELL CRENSHAW, Atlanta. For duty, from Fort Oglethorpe, Lieuts. CLEVELAND D. WELCHEL, Gainesville; LOUIS B. ROYAL, Girard; CARL S. PITTMAN, Ty Ty.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Atlanta, Capt. JOHN H. HALL, Atlanta.

To New Orleans, Charity Hospital, for instruction, and on completion *to Camp Gordon*, Atlanta, Ga., base hospital, from Camp Gordon, Capt. FRANK BIRD, Valdosta.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, from Camp Bowie, Lieut. CALVIN W. DAVIS, Atlanta.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. JOHN W. BRADLEY, Woodstock.

Illinois

To Boston, Mass., Harvard Graduate School of Medicine, for instruction, Capt. CLAUDE R. G. FORRESTER, Chicago.

To Camp Cody, Deming, N. M., base hospital, from Camp Pike, Major WILLIAM FULLER, Chicago; from Camp Upton, Lieut. IRA McKINNEY, Chicago.

To Camp Devens, Aver, Mass., base hospital, from Newport News, Major FRANK S. CHURCHILL, Chicago; from Springfield, Mass., Capt. WILLIAM P. MacCRACKEN, Chicago.

To Camp Dodge, Des Moines, Ia., base hospital, Lieut. KARL LEWIS, Chicago.

To Camp Fremont, Palo Alto, Calif., for duty, from Camp Lewis, Lieut. RALPH W. PETERSON, Chicago.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Upton, Lieut. CLYDE F. BACCUS, Woodstock. For duty, from Camp Wheeler, Lieut. PAUL BLACK, Chicago.

To Camp Grant, Rockford, Ill., base hospital, Capt. ARTHUR F. BYFIELD, Chicago.

To Camp MacArthur, Waco, Tex., to examine the command for nervous and mental diseases, from El Paso, Capt. ROMNEY M. RITCHEY, Elgin.

To Camp Meigs, Washington, D. C., for duty, from Boston, Lieut. MAXWELL LANDO, Chicago; from Camp Hancock, Lieut. CLINTON STALEY, Enfield.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Garden City, Lieut. CLEVELAND C. MACLANE, Chicago.

To Fort Oglethorpe for instruction, Capt. ALLEN ALQUIRE, Belvidere; Lieuts. PERCY E. ROGERS, Aurora; JACOB MEYER, Chicago; KARL L. HAYES, Farmersville; JACOB V. KAHN, AMBLER C. PRUNER, South Chicago; from Camp Pike, Lieut. FREDERICK I. BROWN, Chicago.

To Fort Riley, as orthopedic surgeon, Capt. EDWIN W. RYERSON, Chicago. For instruction, Lieuts. JOHN A. TURNER, Antioch; LEON P. KOZAKIEWICZ, Chicago; JOHN J. HOPKINS, Hindsboro; CHRISTOPHER B. STUART, Mt. Oliver; FRANK B. HILLER, Pinckneyville; from Camp Grant, Lieut. WILLIAM H. TAYLOR, Chicago.

To Fort Sam Houston, Tex., for duty, from Rockefeller Institute, Lieut. CHARLES P. ECK, Chicago.

To Rockefeller Institute for instruction, in the treatment of infected wounds and on completion *to Camp Hancock*, Augusta, Ga., base hospital, from Camp Hancock, Major ALBERT E. HALSTEAD, Chicago. For instruction in laboratory work, and on completion *to Army Medical School* for duty, from Camp Jackson, Lieut. FRANK MOCK, Chicago.

To Williamsbridge, N. Y., for duty, Lieut. HAROLD A. ROSENBAUM, Chicago.

Honorably discharged on account of physical disability incident to the service, Lieut. JAMES S. CLELAND, Swanick. On account of physical disability existing prior to entrance into the service, Capt. MAXIMILIAN HERZOG, Chicago; Lieuts. EDMON E. RICHARDSON, Mattoon; FRANK A. PALMER, Morris; AUSTIN I. BROWN, Murphysboro; EARL R. COCHRAN, Rockton.

Resignation of Capt. PAUL E. BAIN, Pleasant Plains, accepted.

Indiana

To Camp A. A. Humphreys, Accotink, Va., for duty, from Camp Laurel, Capt. JAMES O'D. RHEA, Linden.

To Camp Bowie, Fort Worth, Tex., base hospital, from Camp Logan, Lieut. WARREN D. CALVIN, Fort Wayne.

To Camp Cody, Deming, N. M., base hospital, from Fort Oglethorpe, Capt. BUDD VAN SWERINGEN, Fort Wayne.

To Camp Custer, Battle Creek, Mich., base hospital, Lieut. CHARLES J. ADAMS, Kokomo.

To Camp Dix, Wrightstown, N. J., as member of the tuberculosis examining board, from Fort Oglethorpe, Lieut. HAROLD S. HATCH, Orklandon.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp McClellan, Capt. ARTHUR F. WEYERBACKER, Indianapolis.

To Camp Jackson, Columbia, S. C., for duty, Capt. JOSEPH A. F. FRISZ, Terre Haute.

To Fort Oglethorpe for instruction, Lieuts. FRED C. DILLEY, Brazil; FOWLER B. ROBERTS, Evansville; PAUL R. TINDALL, Greensburg; CARL HENNING, Hanover; ROBERT G. JOHNSTON, Markle.

To Fort Omaha, Nebr., for duty, from Army Medical School, Capt. BONNELLE W. RHAMY, Fort Wayne.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Garden City, Lieuts. DONALD D. JOHNSTON, Fort Wayne; PAUL A. GARBER, Sidney.

Iowa

To Camp Crane, Allentown, Pa., base hospital, Capt. ANDREW H. WOODS, Cedar Rapids.

To Camp Fremont, Palo Alto, Calif., base hospital, from Camp Lewis, Capt. MARCUS C. TERRY, Ja., Brighton.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Joseph E. Johnston, Lieut. SNYDER D. MAIDEN, Council Bluffs.

To Camp Sheridan, Montgomery, Ala., for duty, from San Antonio, Capt. DONALD McELDERRY, Ottumwa.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Camp Cody*, Deming, N. M., base hospital, Lieut. GUS. B. YOUNG, Des Moines.

To Fort Oglethorpe for instruction, from New York City, Lieut. ELMER P. WEIH, Clinton.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion *to Camp Lee*, Petersburg, Va., base hospital, Lieut. EDWARD F. BEEH, Fort Dodge.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Bowie*, Fort Worth, Tex., base hospital, from Fort Riley, Capt. PRINCE E. SAWYER, Sioux City.

Kansas

To Camp Grant, Rockford, Ill., for duty, from Camp Sherman, Lieut. LEE E. HAUGHEY, Concordia.

To Fort Riley for instruction, Lieuts. SEBREE S. McGINNIS, Dighton; HENRY O. HARDESTY, Jennings.

To Fort Sheridan, Ill., hospital train, Lieut. JOSEPH C. SHAW, Holton.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Camp Shelby*, Hattiesburg, Miss., base hospital, from Fort Riley, Lieut. NOBLE E. MELENCAMP, Dodge City.

Honorably discharged on account of physical disability, Lieut. ALEXANDER HAGGART, Ottawa.

The following order has been revoked: *To Fort Oglethorpe* for instruction, Lieut. OTTO J. DIXON, Mound Valley.

Kentucky

To Baltimore, Md., Johns Hopkins Hospital, for instruction in pathology, from Rockefeller Institute, Capt. THOMAS H. KELLY, Covington.

To Camp Jackson, Columbia, S. C., for duty, Lieut. ALBERT L. BASS, Louisville.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Capt. ROBERT L. GLASCOCK, Caneyville.

To Camp Logan, Houston, Tex., for duty, from Fort Oglethorpe, Capt. SAMUEL C. RICHIE, Dwarf.

To Camp Zachary Taylor, Louisville, Ky., base hospital, Capts. JACK H. GRANT, Florence; ARTHUR C. HENTHORN, Garrison.

To Fort Sheridan, Ill., hospital train, Lieut. JOHN B. OVERALL, Cox's Creek.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Greene*, Charlotte, N. C., base hospital, from Camp Greene, Capt. BENJAMIN D. CHOATE, Louisville.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. THOMAS C. BELL, Harrodsburg.

The following order has been revoked: *To Fort Riley* for instruction, Capt. WILLIAM W. WILSON, Henderson.

Louisiana

To Baltimore, Md., Johns Hopkins Hospital, for instruction in pathology, from Rockefeller Institute, Lieut. JAMES L. LOCASCIO, New Orleans.

To Camp American University, Washington, D. C., for duty, from Garden City, Lieut. HARRY W. SCOFIELD, Shreveport.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Pike, Lieut. WALLACE L. DIXON, Hope Villa.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieut. JOHN C. McSWEEN, New Orleans. To examine the command for nervous and mental diseases, Lieut. PRESSLY Y. DONALD, Jackson; from Washington, D. C., Lieut. EDWIN M. LEVY, Jackson.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. JOSEPH M. HOUNTHA, New Orleans.

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieut. JOEL A. WILKINSON, Homer.

To Fort Oglethorpe for instruction, Lieut. CHARLES B. LAW, Pelican.

To Newport News, Va., for duty, from El Paso, Major ROY McL. VAN WART, New Orleans.

To Plattsburg Barracks, N. Y., for temporary duty, and on completion *to Army Medical School* for the required course of instruction, from Army Medical School, Lieut. ABRAHAM MATTES, New Orleans.

Maine

To Camp Colt, Gettysburg, Pa., for duty, from Fort Oglethorpe, Capt. SUMNER C. PATTEE, Searsport.

To Camp Greene, Charlotte, N. C., base hospital, from Camp Dodge, Capt. HERBERT E. MILLIKEN, Portland; from Camp Jackson, Major THOMAS J. BURRAGE, Portland; Lieut. STEPHEN A. COBB, Jr., Sanford; from Camp Sevier, Lieut. THOMAS A. FOSTER, Portland.

To Camp Jackson, Columbia, S. C., from Camp Meigs, Capt. CHARLES E. COOK, Jr., South Berwick.

To Camp Pike, Little Rock, Ark., as orthopedic surgeon, from Camp Doniphan, Capt. ALLAN WOODCOCK, Bangor.

To Washington, D. C., for duty, from Fort Oglethorpe, Lieut. HARRY L. KILGORE, Belfast.

The following orders have been revoked: *To Hoboken, N. J.*, for duty, Lieut. JAMES M. STURTEVANT, Dixfield.

To New Haven, Conn., for duty, Lieut. WILLIAM F. FINNAY, Jr., Baltimore.

Maryland

To Camp Crane, Allentown, Pa., for duty, from Army Medical School, Lieut. WILLIAM C. DUFFY, Baltimore.

To Camp Greene, Charlotte, N. C., base hospital, from Fort Porter, Capt. DANIEL D. V. STUART, Jr., Baltimore.

To Camp Meade, Annapolis Junction, Md., to examine the command for nervous and mental diseases, Lieut. VERNON L. MAHONEY, Catonsville.

To Fort Oglethorpe, Camp McClellan, Anniston, and *Camp Sheridan*, Montgomery, Ala., and *Camp Shelby*, Hattiesburg, Miss., for orthopedic instruction, and on completion *to Camp Shelby*, Hattiesburg, Miss., for temporary duty, from Camp Wadsworth, Capt. HENRY P. MAUCK, Baltimore. *To Fort Oglethorpe* for instruction, Lieut. HERBERT M. N. WYNNE, Baltimore; from New York City, Lieut. MICHAEL J. EGAN, Jr., Baltimore.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, for duty, from Camp Meigs, Lieut. RALPH S. STAUFFER, Hagerstown. For instruction in the treatment of infected wounds, Lieut. JOHN G. LONG, Baltimore. On completion *to Camp Devens*, Ayer, Mass., base hospital, Lieut. JOHN W. MARTIN, Annapolis.

To Washington, D. C., American University, for duty, Lieut. ELI K. MARSHALL, Jr., Baltimore.

To Williamsbridge, N. Y., for duty, Lieut. BRUCE H. GUISTWHITE, Baltimore.

Massachusetts

To Camp Dix, Wrightstown, N. J., as orthopedic surgeon, from Fort Oglethorpe, Lieut. EN Y. KAU, Boston.

To Camp Gordon, Atlanta, Ga., for duty, Capt. WILLIAM K. S. THOMAS, Cambridge.

To Camp Grant, Rockford, Ill., base hospital, Capt. ALMON G. MORSE, Hingham.

To Camp Logan, Houston, Tex., for duty, from Fort Oglethorpe, Lieut. GEORGE C. BIONDI, Framingham.

To Camp McClellan, Anniston, Ala., to examine the command for nervous and mental diseases, from New York City, Lieut. BUELL L. ASHMORE, Palmer.

To Camp Meade, Annapolis Junction, Md., base hospital, from Army Medical School, Lieut. WARREN S. SHIELDS, Boston. To examine the command for nervous and mental diseases, Lieut. MARTIN W. PECK, Marblehead.

To Cape May, N. J., for temporary duty, from New York City, Capt. HARRY P. CAHILL, Boston.

To Fort Des Moines, Ia., base hospital, from Camp Sherman, Capt. EDWARD S. ABBOT, Waverly.

To Fort Oglethorpe for instruction, Lieut. JOHN B. THOMAS, Pittsfield.

To Jackson Barracks, La., to examine the command for nervous and mental diseases, and on completion *to his proper station*, from Camp Logan, Lieut. FRANCIS S. CALDICOTT, Milford.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Garden City, Lieut. EMMETT E. LIGHT, Springfield.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion *to Camp McClellan*, Anniston, Ala., base hospital, Lieut. THOMAS H. LANMAN, Cambridge.

To Rockefeller Institute for instruction, in the treatment of infected wounds, and on completion *to Fort Oglethorpe*, for instruction, Capt. JAMES R. TORBERT, Boston.

To Springfield, Mass., for duty, Lieut. CHARLES E. HARRIS, Hyannis.

Honorably discharged on account of physical disability existing prior to entrance into the service, Capt. ISAAC S. F. DODD, Pittsfield; Lieut. ERDIX T. SMITH, Springfield.

Resignation of Lieut. DAVID BRIDGEWOOD, Worcester, accepted.

The following order has been revoked: *To Camp Devens*, Ayer, Mass., base hospital, from Fort Riley, Capt. PAUL WITHINGTON, Boston.

Michigan

To Camp Bowie, Fort Worth, Tex., base hospital, from Fort Oglethorpe, Capt. BYRON H. JENNE, Detroit.

To Camp Grant, Rockford, Ill., as assistant to camp surgeon, from Fort Riley, Lieut. ABRAHAM NOVINSKY, Detroit.

To Fort Oglethorpe for instruction, Lieuts. RUSSELL A. A. OLDFIELD, Bay City; VICTOR F. RYAN, Escanaba; AUSTIN W. HEINE, Mt. Clemens; from New York City, Lieut. WILLIAM R. McCLURE, Detroit.

To Jefferson Barracks, Mo., to examine the command for cardio-vascular diseases, from Fort Riley, Lieut. FORREST R. OSTRANDER, Lansing.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, from Garden City, Lieut. RICHARD F. BOONSTRA, Detroit.

To Newport News, Va., for duty, Lieut. ALBERT F. OTTOW, Detroit.

To New York City, Neurological Institute, for instruction, Lieut. GLENN B. CARPENTER, Detroit.

To Williamsbridge, N. Y., for duty, Lieuts. FRANK T. F. STEPHENSON, Detroit; RAY A. PINKHAM, Lansing.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. STANLEY E. BRYANT, Dowagiac, WILLIAM J. DUBOIS, Grand Rapids.

Resignation of Lieut. DELBERT R. BLENDER, Detroit, accepted.

Minnesota

To Camp Dodge, Des Moines, Ia., base hospital, from New York City, Major WARREN A. DENNIS, St. Paul.

To Camp Hancock, Augusta, Ga., base hospital, from Walter Reed General Hospital, Lieut. RICHARD B. GRIVIN, Villard.

To Camp Jackson, Columbia, S. C., base hospital, from Army Medical School, Lieut. HERMAN W. HUNDLING, Rochester.

To Camp Lewis, American Lake, Wash., as assistant to the camp surgeon, from Fort Riley, Lieut. HERBERT A. BURNS, Hutchinson.

To Camp Pike, Little Rock, Ark., to examine the command for mental and nervous diseases, from Ann Arbor, Lieut. FRANK W. WHITMORE, St. Paul.

To Fort Riley for instruction, Lieut. WILLIAM J. KUCERA, Hutchinson.

To Houston, Tex., Ellington Field, Signal Corps Aviation School, from Mineola, Lieut. REUBEN A. JOHNSON, Minneapolis.

To New Haven, Conn., for duty, Lieut. GUY BRELSFORD, State Sanatorium.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Jackson*, Columbia, S. C., base hospital, from Fort Riley, Major PAUL B. COOK, St. Paul.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp MacArthur*, Waco, Tex., base hospital, Lieut. FELPHIN W. KOHLER, Albany.

The following order has been revoked: *To Camp Dodge*, Des Moines, Ia., as assistant to camp surgeon, Major PAUL B. COOK, St. Paul.

Mississippi

To Fort Oglethorpe for instruction, Capt. WILLIAM E. MOODY, Lake; Lieuts. HENRY K. WADE, Sherman; JOHN L. TRICE, Tupelo.

To Jackson Barracks, La., to examine the command for nervous and mental diseases, and on completion *to his proper station*, from Camp Logan, Lieut. THOMAS C. CLEVELAND, Meridian.

To New York City, Neurological Institute, for instruction, from Camp Doniphan, Major JOHN W. BARKSDALE, Winona.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to his proper station*, from Camp Doniphan, Capt. THOMAS W. HOLMES, Winona.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. ROBERT M. WEBB, Noxapter.

Missouri

To Camp Fremont, Palo Alto, Calif., for duty, from Camp Kearny, Lieut. CAMERON A. ROSE, Kansas City.

To Camp Hancock, Augusta, Ga., base hospital, from Walter Reed General Hospital, Capt. CLAUDE E. FRAZIER, Kansas City. As assistant to camp surgeon, from West Point, Lieut. ROY F. MILLS, Odessa.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. PAUL C. DAVIS, Moberly.

To Fort McHenry, Md., for temporary duty, from New York City, Major WILLIAM E. LEIGHTON, St. Louis.

To Fort Oglethorpe for instruction, Capt. LOGAN O. HAMILTON, Koch.

To Fort Porter, N. Y., for duty, from Ann Arbor, Capt. WILLIAM T. PATTERSON, Hannibal.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Bowie*, Fort Worth, Tex., base hospital, Lieut. FRANK H. RAAB, Kansas City. On completion *to Camp Doniphan*, Fort Sill, Okla., base hospital, Lieut. PATRICK McGENNIS, St. Louis.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to his proper station*, from New Orleans, Major JOHN C. MORFIT, St. Louis. On completion, *to Camp Wadsworth*, Spartanburg, S. C., base hospital, from Fort Riley, Lieut. QUITMAN U. NEWELL, St. Louis.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. HIRAM S. WINTERS, Oran; CLARENCE CARDWELL, Stella.

The following orders have been revoked: *To Army Medical School*, for instruction, Lieut. JAMES E. WILLIAMS, St. Louis. *To Camp Meade*, Annapolis Junction, Md., for duty, Lieut. JAMES F. McFADDEN, St. Louis.

Montana

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. WEAVER B. ROGERS, White Sulphur Springs.

To Camp Lewis, Wash., base hospital for observation treatment, and report, Major LE ROY SOUTHMAYD, Great Falls.

To Fort Riley for instruction, Lieut. LEE K. GIBSON, Bozeman.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. HUGH M. WARE, Butte.

Nebraska

To Camp Grant, Rockford, Ill., base hospital, from New York City, Lieut. JAMES F. KELLY, Dawson.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. FRANK H. MORROW, Columbus.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Camp MacArthur*, Waco, Tex., base hospital, from Fort Leavenworth, Lieut. CLARK D. SPIVEY, Lincoln.

To Fort Riley for instruction, Capt. HARRY W. FRANCIS, Bancroft; Lieuts. NEILL J. EVERITT, Kearny; JOSEPH P. SWOBODA, Omaha; LOUIS D. McGUIRE, Wisner.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, Lieut. GUY S. PHILBRICK, Omaha.

Honorably discharged, Capt. HARRY M. BONNIWELL, Lincoln. On account of physical disability existing prior to entrance into the service, Lieut. RAYMOND A. YOUNG, Auburn.

Nevada

To Fort Riley for instruction, Lieut. WALTER S. HOLMQUIST, Ely.

New Hampshire

To Camp Meade, Annapolis Junction, Md., as member of the board examining the command and for mental and nervous diseases, from New York City, Capt. LEE C. STILLINGS Alstead.

To New York City, Neurological Institute, for intensive training, from Hoboken, Lieut. GOODWIN A. JOHNSON, Concord.

New Jersey

To Camp Devens, Ayer, Mass., base hospital, from Boston, Capt. CHARLES R. MITCHELL, Paterson.

To Camp Dix, Wrightstown, N. J., as member of the tuberculosis examining board, from Camp Sevier, Lieut. EDWARD S. KRANS, Plainfield. Base hospital, Lieut. ALONZO W. LITTLE, Secaucus.

To Camp Fremont, Palo Alto, Calif., for duty, from Camp Kearny, Lieut. JOHN PELLARIN, West Hoboken.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Upton, Lieut. BERNARD A. O'CONNOR, Harrison.

To Camp Kelly, San Antonio, Tex., for duty, from Wichita Falls, Capt. CLARENCE LE F. VREELAND, Pompton Lakes.

To Camp Upton, L. I., N. Y., base hospital, Capt. GERHARD H. COCKS, Lakewood.

To Fort Bliss, Tex., for duty, from Camp Grant, Major CHARLES E. MACDONALD, Salem.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. CHARLES BROWNE, Princeton; LAWRENCE E. ROGERS, Trenton.

New Mexico

To Camp Kelly, San Antonio, Texas, for duty, from Camp MacArthur, Lieut. ORVILLE B. MOON, Mills.

To Fort Riley for instruction, Lieuts. ENOCH C. PRICE, Captain WILLIAM G. BASSETT, Des Moines.

New York

To Camp Hancock, Augusta, Ga., base hospital, from Allentown, Major DANIEL A. SINCLAIR, New York; from Newport News, Capt. EMIL ALTMAN, New York. For duty, from Fort Oglethorpe, Capt. JOS. A. LANAHAN, Albany; Lieut. SAMUEL GRIENSTEIN, Buffalo.

To Camp Jackson, Columbia, S. C., base hospital, Capt. PHILIP S. POTTER, Syracuse. For duty, from Fort Schutler, Major WILLIAM E. FITCH, New York; from Fort Oglethorpe, Lieut. HIRAM S. YELLEN, Buffalo.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. SAMUEL ROTH, New York.

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieut. ISIDOR E. SHACK, Brooklyn.

To Camp Lee, Petersburg, Va., with the board examining the command for cardiovascular diseases, Capt. JOHN B. ZABRISKIE, Brooklyn.

To Camp Meade, Annapolis Junction, Md., base hospital, from Army Medical School, Lieuts. FRANCIS G. RILEY, Jamaica; DONALD A. MACDUFFIE, Olean.

To Camp Sheridan, Montgomery, Ala., for duty, from New York, Capt. LEON M. WILBOR, Jasper.

To Camp Sherman, Chillicothe, Ohio, with the board examining the command for cardiovascular diseases, from Fort Oglethorpe, Lieut. ORVILLE H. RICHER, New York.

To Fort Oglethorpe, for instruction, Capts. CHARLES BREWER, CONRAD M. MEYER, ERNEST C. SCHULTZE, New York; Lieuts. DANIEL F. HANNON, IVAN M. SCHNEIBLE, Albany; THEODORE P. GOLDSTEIN, HAROLD C. GOLLY, LEO JACOBS, SAMUEL SOLOVEI, Brooklyn; JOHN G. GROTZ, Buffalo; LEON J. CAMCHE, Elmira; DWIGHT G. DUDLEY, Endicott; ABRAM B. BRUNER, DANIEL P. GILLESPIE, WALTER F. HUME, New York; from Camp Gordon, Lieut. HENRY M. SPOFFORD, Batavia.

To Fort Sam Houston, Tex., for duty, from Rockefeller Institute, Lieuts. ADOLPH G. DE SANCTIS, JACQUES S. UHR, New York.

To Fort Screven, Ga., to examine the command for mental and nervous diseases, and on completion *to his proper station*, from Camp Wheeler, Lieut. PERCY L. DODGE, Poughkeepsie.

To Fort Thomas, Ky., for duty, Capt. HENRY JAMES, New York.

To Fox Hills, N. Y., for duty, Lieut. JACOB BUCKSTEIN, Brooklyn; from Cape May, Major DAVID BOVAIRD, New York.

To Hoboken, N. J., base hospital, Lieut. CHARLES E. SEVIER, New York; from New York, Capt. EDWARD T. WENTHWORTH, Rochester; from Fort Oglethorpe, Lieut. DAVID T. BREWSTER, Jr., Poughkeepsie.

To Lakewood, N. J., for duty, from Camp Wadsworth, Lieut. ALBERT C. MARGULIES, Brooklyn.

To Markleton, Pa., base hospital, from Army Medical School, Lieut. JOSEPH D. ROSENTHAL, New York.

To Mineola, L. I., N. Y., Hazelhurst Field, Signal Corps Aviation School, from Fort Monroe, Lieut. JOHN H. DUNNINGTON, New York.

To New Haven, Conn., for instruction, and on completion *to his proper station*, from Otisville, N. Y., Capt. WILLIAM J. HAMMER, New York.

To Newport News, Va., for duty, Lieuts. SAMUEL SOLOVEI, Brooklyn; LOYAL L. DUNLOP, Stoney Creek; from Fort McPherson, Major EDWARD W. PINKHAM, New York.

To New York City, Bellevue Hospital, for instruction, and on completion *to Rockefeller Institute*, for instruction in the treatment of infected wounds, and on completion *to Camp Devens*, Ayer, Mass., base hospital, Lieut. CLARENCE P. KUMMER, Buffalo.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion *to Camp Beauregard*, Alexandria, La., base hospital, Capt. JOSEPH F. LONG, Brooklyn. On completion *to Camp Wadsworth*, Spartanburg, S. C., base hospital, from Fort Oglethorpe, Lieut. THOMAS J. LUBY, New York. On completion *to Camp Wheeler*, Macon, Ga., base hospital, Lieut. WILLIAM F. MITCHELL, Syracuse.

To Richmond, Petersburg and Hopewell, Va., for inspection, and on completion *to his proper station*, Lieut. WILLIAM G. PHILLIPS, Jr., Brooklyn.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Doniphan*, Fort Sill, Okla., base hospital, from Fort Oglethorpe, Lieut. WILLIAM P. SWEENEY, New York. On completion *to Camp MacArthur*, Waco, Tex., base hospital, from Fort Oglethorpe, Lieut. RAYMOND T. POTTER, Ellenville.

Honorably discharged on account of physical disability incident to the service, Lieut. ROBERT KNIGHT, Seneca Falls. On account of physical disability existing prior to entrance into the service, Lieuts. FRANCIS G. RILEY, Jamaica; DONALD A. MACDUFFIE, Olean.

The following order has been revoked: *To Fort Oglethorpe*, for instruction, Lieut. ROBERT J. SHEA, New York.

North Carolina

To Camp Gordon, Atlanta, Ga., for duty, from Camp MacArthur, Lieut. LOUIS N. WEST, Raleigh; from Fort Oglethorpe, Lieuts. JOHN C. RICH, Candler; MURRAY P. WHICHARD, Tyner.

To Camp Greene, Charlotte, N. C., base hospital, Lieut. CHARLES Z. CANDLER, Sylva; from Fort Oglethorpe, Lieut. JOS. A. HARTSELL, Concord.

To Camp Hancock, Augusta, Ga., base hospital, from Camp Grant, Lieut. JOSEPH W. HOOPER, Wilmington.

To Fort Sam Houston, Texas, for duty, from Camp Forrest, Major CHARLES O'H. LAUGHINGHOUSE, Greenville.

To Fort Screven, Ga., to make nervous and mental examinations, from New York City, Lieut. EVERETT S. BARR, Asheville.

Honorably discharged on account of physical disability not incurred in line of duty, Lieut. WILLIAM C. WILLIAMS, Apex. On account of physical disability existing prior to entrance into the service, Lieut. JOSEPH R. SKULL, Cliffside.

The following order has been revoked: *To Camp Meade*, Annapolis Junction, Md., base hospital, Lieut. RALPH C. SADLER, Bladenboro.

North Dakota

To Camp Jackson, Columbia, S. C., base hospital, from Hoboken, Capt. ORVILLE N. MELAND, Grand Forks.

To Camp Lewis, American Lake, Wash., base hospital, Lieut. WILHELM S. ANDERSON, Grand Forks.

Honorably discharged, Lieut. BENJAMIN FRANKSON, Rugby.

Ohio

To Camp Gordon, Atlanta, Ga., base hospital, Lieuts. ORRIN C. McDOWELL, Akron; ARTHUR E. ROBERTSON, Cleveland; from Camp Sherman, Capt. WILLARD C. STENER, Cleveland; Lieut. ROYAL G. GROSSMAN, Lakewood; from Fort Oglethorpe, Lieuts. VICTOR B. WELLER, Delaware; SQUIRE S. BEVERLY, Toledo; from Walter Reed General Hospital, Lieut. ROY F. DRURY, Akron.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieut. JAY G. KEISER, Columbus; MELVILLE M. McNERNEY, Corning; JOSEPH A. TURNER, Linden Heights.

To Camp Kelly, San Antonio, Texas, for duty, from Camp McArthur, Capt. JOHN C. MILLER, Payne; Lieuts. ARTHUR W. CARLEY, Dayton; JOSIAH M. PUMPHREY, Mount Vernon; CARL H. GRAF, Sciotoville.

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieuts. HENRY B. RAMAN, Cincinnati; FRANCIS E. REED, Wren.

To Camp MacArthur, Waco, Texas, to examine the command for nervous and mental diseases, from El Paso, Lieut. JAMES A. BELYEA, Toledo.

To Camp Pike, Little Rock, Ark., base hospital, from Rockefeller Institute, Lieut. JAMES R. DAVIS, Painesville.

To Camp Sheridan, Montgomery, Ala., for duty, from Camp Dix, Lieut. SAMUEL J. ELLISON, West Union; from Fort Oglethorpe, Lieut. GLEN NISLEY, Chillicothe; from Garden City, Lieut. JOSEPH R. MONTGOMERY, Steubenville.

To Camp Sherman, Chillicothe, Ohio, base hospital, Lieuts. ANTON W. OELGOETZ, Columbus; MURRAY E. REEDER, Ohio City.

To Camp Wheeler, Macon, Ga., base hospital, from Camp Meade, Lieut. MINER R. KENDALL, Cleveland.

To Cape May, N. J., for temporary duty, from Cleveland, Capt. JOHN M. INGERSOLL, Cleveland.

To Edgewood, Md., base hospital, from Camp Jackson, Lieut. ADAM B. DENISON, Cleveland.

To Fairchild, Ohio, Wilbur Wright Field, Signal Corps Aviation School, from Dayton, Lieuts. LOUIS C. WOTTRING, Cincinnati; PAUL A. DAVIS, Columbus.

To Fort Oglethorpe for instruction, Capt. LUTHER P. HOWELL, Washington C. H.; Lieuts. ROBERT C. VAN BUREN, Carey; FRANK J. GALLAGHER, Cleveland; JOHN A. MELLON, Columbiana; WAL-

TER M. LEONARD, Fostoria; PETER E. KERN, Gibsonburgh; JOHN D. SIDDALL, Kalida; STUCKEY A. CONRAD, Leetonio; ALFRED P. HANCUFF, Youngstown; HARRY M. RAMBO, Zanesville.

Honorably discharged, Lieuts. WILLIAM J. FRANCIS, Kalida; JAMES W. SALISBURY, West Toledo. On account of physical disability, existing prior to entrance into the service, Capt. CLARON B. PFEIDER, Columbus; Lieuts. IGNATIUS W. MATUSKA, Cleveland; JOSEPH H. FRAME, Highland; FREDERICK T. MILES, Salem.

Oklahoma

To Ann Arbor, Mich., Psychopathic Hospital, for intensive training, Capt. ANTONIO DEB. YOUNG, Oklahoma City.

To Fort Riley for instruction, Lieut. RICHARD E. THACKER, Norman.

To McAlester, Okla., for duty, and on completion *to the inactive list*, Lieut. LOYD M. SACKETT, Oklahoma City.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion *to Camp Jackson*, Columbia, S. C., base hospital, from Fort Riley, Lieut. GARNETT, A. KILPATRICK, Wilburton.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Logan*, Houston, Texas, base hospital, Lieut. WALLACE A. AITKEN, Enid.

Honorably discharged, Lieut. CHARLES E. HOUSER, Vici. On account of physical disability incident to the service, Lieut. WILLIAM A. L. COSSEY, Prague. On account of physical disability existing prior to entrance into the service, Lieut. JAMES E. PARRAMORE, Antlers.

Oregon

To Camp Lewis, American Lake, Wash., base hospital, Lieut. ISIDOR C. BRILL, Portland; from Fort McHenry, Capt. THOMAS M. JOYCE, Portland.

To Fort Riley for instruction, Lieuts. ARTHUR W. BOSLOUGH, Ashland; WILLIAM H. POLLARD, Springfield; ROY B. CRAVER, Yamhill.

To Portland, Ore., Yeon Bldg., for duty, Lieut. AMON W. BOTKIN, Portland.

To Vancouver Barracks, Washington, to examine the command for nervous and mental diseases, from Talmage, Calif., Lieuts. KENNETH W. KINNEY, Astoria; CLARENCE U. SNIDER, Portland.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. LEONARD H. VINCENT, Crane.

Pennsylvania

To Camp Beauregard, Alexandria, La., as orthopedic surgeon from Army Medical School, Lieut. ALBERT P. BERG, Philadelphia.

To Camp Crane, Allentown, Pa., base hospital, from Army Medical School, Lieut. ARTHUR E. SIMONIS, Fremont.

To Camp Dix, Wrightstown, N. J., base hospital, Lieut. THOMAS V. McLAUGHLIN, Wilkes-Barre.

To Camp Fremont, Palo Alto, Calif., for duty, from Camp Lewis, Lieut. FRANK E. SMITH, New Kensington.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Upton, Lieut. GARDNER A. SAYRES, Lancaster; from Lakewood, Lieut. MILTON H. BACHMAN, McKeesport. For duty, Lieut. OLIVER K. SPEER, Tamaqua.

To Camp Grant, Rockford, Ill., base hospital, from New York City, Lieut. CHARLES H. KIRK, Homer City.

To Camp Logan, Houston, Texas, for duty, from Fort Oglethorpe, Lieut. WILLIAM J. McGRANER, Port Alleghany.

To Camp MacArthur, Waco, Texas, base hospital, from Fort Oglethorpe, Lieut. ROBERT W. RICHARDS, Shingle House.

To Camp Meade, Annapolis Junction, Md., base hospital, Lieuts. PHILIP A. TRAU, Philadelphia; WILLIAM H. M. IMHOFF, Willow Grove. To examine the command for nervous and mental diseases, Lieut. JACOB PEARL, Philadelphia.

To Camp Pike, Little Rock, Ark., to examine the command for mental and nervous diseases, from Ann Arbor, Lieut. WILLIAM W. McC. MILLS, Du Quesne.

To Camp Sheridan, Montgomery, Ala., for duty, from Camp Gordon, Capt. FERDINAND L. BENZ, Pittsburgh; from Fort Oglethorpe, Lieut. GEORGE H. B. TERRY, Wyalusing.

To Cape May, N. J., for temporary duty, from Philadelphia, Capt. BURTON K. CHANCE, Philadelphia.

To Colonia, N. J., for temporary duty, Lieut. GEORGE W. SCHLINDWEIN, Erie.

To Columbus Barracks, Ohio, for temporary duty, Lieut. DEN C. LINDLEY, New Castle.

To Fort Oglethorpe for instruction, Lieuts. JOHN H. MOSS, Archbald; ALBERT F. DUNSBORO, Barnesboro; PAUL M. HUNSICKER, Beaver Meadow; ROBERT C. KOONS, Conyngham; WILLIAM T. DONCASTER, Jeannette; NATHAN ASHINSKY, Pittsburgh; JOHN F. SPEARMAN, Sharon; from New York City, Lieut. SIDNEY KALLAWAY, Homestead.

To Fort Thomas, Ky., for duty, from New York City, Lieut. HORACE L. CARNCORSS, Philadelphia.

To Rock Island, Ill., for duty, and on completion *to his proper station*, from Camp Wheeler, Capt. VINCENT J. FENERTY, Philadelphia.

To Washington, D. C., St. Elizabeth's Hospital, for intensive training, from Newport News, Capt. WILLIAM S. RUCH, Carlisle.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. CLOY G. BRUMBAUGH, Huntingdon; HARRY A. DUNCAN, Philadelphia; LEO. DEL. PARRY, Rock Glen.

Resignation of Lieut. FRANKLIN W. MATHEWSON, Oakdale, accepted.

The following orders have been revoked: *To Camp A. A. Humphrey*, Accotink, Va., for duty, Lieut. HARRY A. DUNCAN, Philadelphia. *To Camp Sheridan*, Montgomery, Ala., for duty, from Camp Gordon, Capt. FERDINAND L. BENZ, Pittsburgh.

South Carolina

To Baltimore, Md., John Hopkins Hospital, for instruction in pathology, from Rockefeller Institute, Lieut. FRANCIS A. COWARD, Columbia.

To Camp Gordon, Atlanta, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM R. BLACKMON, Rock Hill.

To Williamsbridge, N. Y., for observation and treatment, from Fort Riley, Lieut. SAMUEL S. BRUINGTON, Georgetown.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. HERBERT H. ACKER, Anderson.

South Dakota

To Camp Kelly, San Antonio, Texas, for duty, from Camp MacArthur, Lieut. JAMES H. CRAWFORD, Castlewood.

To Fort Riley for instruction, Lieut. CHARLES A. WILLIAMS, Doland.

To Kansas City, Mo., for duty, and on completion *to his proper station*, from Fort Leavenworth, Lieut. GEORGE A. STEVENS, Sioux Falls.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. JAMES C. WALTON, Isabel.

Tennessee

To Camp Colt, Gettysburg, Pa., for duty, from Fort Oglethorpe, Lieut. GROVER C. WEBB, Memphis.

To Camp Forrest, Chickamauga Park, Ga.; *Fort Oglethorpe*, and *Memphis, Tenn.*, Park Field, from Camp Hancock, Capt. LEE A. STONE, Memphis.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Upton, Capt. CHARLES L. GOODRICH, Fayetteville.

To Camp Greene, Charlotte, N. C., base hospital, from Camp Gordon, Capt. LEON L. MEYER, Memphis.

To Camp Logan, Houston, Texas, for duty, from Fort Oglethorpe, Lieut. DAVID H. JAMES, Nashville.

To Camp McClellan, Anniston, Ala., as assistant to the camp surgeon, from West Point, Capt. JOHN M. LEE, Nashville.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion to Camp Pike, Little Rock, Ark., base hospital, from Fort Oglethorpe, Capt. CARL T. SPECK, Cleveland. On completion *to Camp Bowie*, Fort Worth, Texas, base hospital, Lieut. WILLIAM D. RICHARDS, Etowah.

To Rockefeller Institute, for instruction in the treatment of infected wounds, and on completion *to his proper station*, from Fort Oglethorpe, Major FRANK D. SMYTHE, Memphis.

To Washington, D. C., St. Elizabeth's Hospital, for intensive training, from Camp Wadsworth, Lieut. PHILIP I. TRENTZACH, Rives.

Honorably discharged, Lieut. JOHN W. FROST, Dyer.

The following order has been revoked: *To Hoboken, N. J.*, for duty, Capt. GEORGE E. VAUGHAN, Clarksville.

Texas

To Army Medical School, for instruction, Lieut. HORACE H. HILLIARD, Canton.

To Camp Colt, Gettysburg, Pa., for duty, from Fort Oglethorpe, Lieut. HERSHALL LAFORGE, Kingsbury.

To Camp Devens, Ayer, Mass., base hospital, from Fort Oglethorpe, Lieut. DOLPHUS E. COMPERE, Dallas.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Joseph E. Johnston, Capt. JOSEPH E. JOHNSTON, Kirvin; from Fort Oglethorpe, Lieut. CLAUDE E. PIERSALL, Wolfe City.

To Camp Greene, Charlotte, N. C., base hospital, from Camp Travis, Capt. ROBERT F. MILLER, San Antonio; from Camp Upton, Capt. OWEN R. O'NEILL, Clarksville; from Fort Oglethorpe, Lieut. WILLIAM A. LEE, Denison.

To Camp Sheridan, Montgomery, Ala., base hospital, from Camp Hancock, Major WALLACE KALSTON, Houston.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, Lieut. GEORGE M. JONES, Smithville.

To Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment, Major WALLACE RALSTON, Houston.

Honorably discharged, Lieut. JOHN J. TRIBLE, Port Lavosa.

The following order has been revoked: *To Army Medical School* for instruction, Lieut. FREDERICK L. STORY, Ennis.

Utah

To Camp Wheeler, Macon, Ga., base hospital, from Fort Riley, Lieut. JOHN O. COOK, Sunnyside.

To Fort Riley for instruction, Lieut. HARRY S. SCOTT, Salt Lake City.

Vermont

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieut. JOHN M. CAISSE, Vergennes.

To Fort Oglethorpe for instruction, Capt. WALTER J. WHITE, Middlebury.

Virginia

To Camp Dix, Wrightstown, N. J., as orthopedic surgeon, from Fort Oglethorpe, Lieut. ERNEST B. MILLER, Elkton.

To Camp Gordon, Atlanta, Ga., base hospital, Lieut. FRANK D. WILLIS, Newport News.

To Camp Greene, Charlotte, N. C., base hospital, from Fort Oglethorpe, Lieut. PAUL DAVIS, Roanoke.

To Fort Oglethorpe for instruction, Lieuts. HERMAN P. DAVIDSON, Lexington; EDGAR A. MOORE, Paris; WALTER D. SIMMONS, Richmond; HARRY C. HARRIS, Roanoke; WILLIAM L. VARN, Walkerton; from Army Medical School, Lieut. ARTHUR HOOKS, Blackstone.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. GEORGE Y. MACMURPHY, The Plains.

Washington

To Camp Lewis, American Lake, Washington, for duty, from Portland, Ore., Lieut. JOSEPH HEHIR, Sedro-Woolly.

To Fort Monroe, Va., for temporary duty, from New York City, Capt. HARRY G. WILLARD, Tacoma.

To Fort Riley for instruction, Lieut. WILLIS H. HALL, Seattle.

To Hoboken, N. J., for temporary duty, from New York City, Capt. HARRY E. ALLEN, Seattle.

West Virginia

To Camp McClellan, Anniston, Ala., base hospital, Capt. HARRY M. LAVILLE, Littleton.

Wisconsin

To Camp Gordon, Atlanta, Ga., base hospital, from Boston, Lieut. JOHN W. HANSEN, Milwaukee.

To Camp Kelly, San Antonio, Texas, for duty, from Camp MacArthur, Lieuts. GEORGE W. HARRISON, Ashland; JAMES H. FOWLER, Lancaster.

To Edgewood, Md., base hospital, Lieut. EMIL H. SUTTER, Milwaukee.

The following orders have been revoked: *To Camp Cody*, Deming, N. M., base hospital, Capt. GERHARD A. BADING, Milwaukee. *To Fort Riley* for instruction, Lieut. KNUTE A. RUETHIN, Ridgeland.

Wyoming

To Fort Riley for instruction, Lieut. EDWARD R. SCHUNK, Dietz.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest; such as relate to society activities, new hospitals, education, public health, etc.)

DISTRICT OF COLUMBIA

Washington Conserves Its Supply of Nurses for the Civil Population.—Washington is suffering from a shortage of graduate nurses. So many nurses have gone into the service of the Army, Navy, and Red Cross, and the population of the city has been so largely increased that the Medical Society of the District of Columbia and the Town and Country Nursing Service of the American Red Cross have felt it necessary to take action to conserve the available supply of graduate nurses. During March, 1918, the Nurses' Registry was able to answer only seventy-three requests for graduate nurses out of a total of 338 requests filed. A public appeal contains the following recommendations:

1. No person should be allowed to have a graduate nurse for minor illness or any purpose other than the care of a seriously ill patient. Nurses are now being retained by many people simply as companions and children's caretakers.

2. A graduate nurse should not be retained on a case after convalescence is well established.

3. Hourly nurses and visiting nurses should be used as much as possible in place of full-time, resident nurses.

4. Patients in hospitals should be cared for by the pupil nurses unless very seriously ill.

5. Women who have taken the Red Cross home nursing course should endeavor to take care of those sick in their own families.

6. Young women of education should be urged to enter training schools for nurses.

7. The public generally should supply the funds to make it possible for the training schools to increase their classes.

If people understand the situation and are willing to practice self-denial, the present supply of nurses can be so wisely and frugally distributed that all imperative needs will be met—and the seriously sick will be cared for.

To make such nurses as are available serve in those places where they can do the greatest possible good, the Medical Society of the District of Columbia has adopted the following resolution and appealed to its members to be guided by the principles laid down in it.

That the society recognizes the prevailing and increasing shortage of trained nurses and urges upon its members the duty of distributing the services of nurses still available in such manner as will best serve the public good; it therefore recommends that members will (1) discourage the employment of trained nurses except in cases in which the safety of the patient demands skilled care; (2) release nurses from the care of patients at the earliest possible moment, so as to make their services available to others; and (3) where possible utilize the service of hourly nurses and practical nurses.

FLORIDA

State Meeting.—The Florida State Medical Association will meet at Tampa, May 15 and 16, for the 1918 session.

ILLINOIS

Chicago

Report of Visiting Nurse Association.—The twenty-eighth annual report of the Visiting Nurse Association of Chicago describes the association as "a field hospital furnishing skilled nursing care to the sick in their own homes" and shows that during 1917 there were 241,352 visits made in the homes of 34,427 patients, 32,488 of whom were new patients. There were ninety-six nurses on the staff whose work is classified into special services.

KENTUCKY

Trachoma.—Fifty cases of trachoma have been discovered in schools in Jefferson County outside of Louisville by officials of the U. S. Public Health Service, and Surg. John McMullen of the service has come to Louisville to aid in treating this disease.

MARYLAND

Personal.—Drs. Hugh Hampton Young and George H. Hocking have been reappointed members of the state lunacy commission by Governor Harrington. Dr. Young, who is president of the commission, is now in France, and during his absence Dr. Hocking is acting president.

Coroners Appointed.—The following physicians have been appointed by the governor as coroners for the different sections of Baltimore City: southwestern, Dr. James M. Fenton; eastern, Dr. Henry L. Sinskey; northern, Dr. John J. Morrissey; northwestern, Dr. James G. Wiltshire; western, Dr. Harry K. Gorsuch; central, Dr. William T. Riley; southern, Dr. Otto M. Reinhardt; northeastern, Dr. James K. Insley; at large, Dr. F. Edward Smith.

To Enlarge Hospital No. 7.—Plans are under way and building operations will begin at once to enlarge General Hospital No. 7, the government hospital for soldiers and sailors who become blind or deaf in the war, located just outside of Baltimore. Some of the new buildings will be used as dormitories for the military staff of the hospital and others as classrooms, where the men will be given vocational training as a means of support in spite of their handicap.

MISSOURI

Action Taken Regarding Disloyalty.—The Missouri State Medical Society, concurred in by the St. Louis Medical Society, has agreed by resolution that any member of these societies who in any way gives aid and comfort to the enemy is disqualified for membership. Under this action, a committee has been appointed by the St. Louis Medical Society to inquire into charges made by Dr. Koetter as to the loyalty of Dr. Charles H. Weisenberg, the report having been made to the society at its meeting, April 20.

NEW YORK

Personal.—Mildred Penrose Stewart, M.A., P.H., who obtained her M.A. degree in public health from the University of California, has been appointed director of the Dutchess County Health Association, with headquarters at Poughkeepsie. She is a graduate of Vassar, 1908, and for seven years taught physiology and hygiene in Pratt Institute, Brooklyn.——Dr. Franklin C. Graves, chief of the Bureau of Vital Statistics of Buffalo, has been appointed acting health commissioner, succeeding Dr. Francis E. Fronczak, who has been commissioned major, M. R. C.——The employees of the Buffalo Health Department, April 2, presented former Health Commissioner Major Francis E. Fronczak, M. R. C., with a military trunk and hand bag. Major Fronczak left for Washington, April 6,——Dr. Daniel Pugh, Utica, who has been serving in France with the Red Cross and who has recently been under treatment in the American Woman's Hospital for Officers in London, is now on duty in the Military Hospital in Liverpool.——Dr. James W. Charters, Buffalo, fractured his right arm, March 22, while cranking his automobile.——Dr. Carl G. Zimmerman, Elmira, who has been in a hospital for seven weeks, has recovered and resumed his practice.

New York City

Investigation of Randall's Island.—Commissioner Coler of the charities department is conducting an investigation of the institutions on Randall's Island which are under the direction of the department of charities. It is alleged that administrative conditions are unsatisfactory.

Three More Hospitals to Care for Wounded Soldiers.—The Montefiore Home and the Hebrew Orphan Asylum have outlined plans for extending the work of these institutions to aid the government in its care of wounded soldiers. The government has accepted the offer of 100 beds in the Montefiore Home on Gunhill Road in the Bronx, near the Columbia War Hospital. The newly erected private hospital of the Montefiore Home has also been placed at the disposal of the government for the care of returning incapacitated officers. This offer is now under consideration by the medical department. The board of directors of the New York Ophthalmic Hospital announce that, during the second year of the war, the hospital will specialize in the injuries to soldiers' eyes. It will give surgical and medical attention to drafted men and recruits, to disabled and wounded soldiers and to dependents of soldiers. It will also give special attention to the training of doctors and nurses for war work, especial emphasis being given to the care of diseases of the eye, ear, nose and throat.

Health Department Changes Head.—Dr. Lewis J. Amster, following his refusal to accede to the demand of Mayor Hylan that he should remove Drs. Abraham Jacobi and Sigismund S. Goldwater from the medical advisory council of the health

department, sent in his resignation as health commissioner, April 29. In giving his reasons for refusing to hold office any longer, Dr. Amster objected to continuous interference and petty direction from the mayor; to the holding up of requests for the filling of important vacancies in the department; to suggestions for the successive abolishment of baby health stations maintained by the department; to the holding up of requests for other important appropriations and inaction in clearing up garbage and ashes in the streets; to the executive order that bureau heads be summarily dismissed on the ground that they held their positions illegally; to the turning over of graft investigations to the civil service commission, and the transference of the Otisville sanatorium to the federal government without conferring with the commissioner. Dr. Royal S. Copeland has been appointed to succeed Dr. Amster. One of the new commissioner's first official acts was to suspend Dr. Lucius P. Brown, director of the bureau of food and drugs, pending trial on charges made by the new health commissioner. Dr. Copeland gives as his reason for suspending Dr. Brown the fact that the latter made public his reply to the attack made on the conduct of the bureau of food and drugs by Chairman James E. McBride of the civil service commission. The committee on wartime problems of New York Academy of Medicine has adopted resolutions, which were sent to Dr. Amster, applauding his action in refusing to be a party to the spoliation of the health department. The executive committee of the citizens' union has also sent resolutions to Dr. Amster congratulating him on the stand he has taken and expressing their appreciation of his courage and wisdom in his struggle in behalf of the people of New York. Letters from various organizations and from physicians protesting against changes that threaten the efficiency of the health department continue to pour in on the mayor.

NORTH CAROLINA

Personal.—Dr. Samuel S. Coe has been selected as city physician of High Point, succeeding Dr. Thomas M. Stanton, who has resigned to enter the military service.

Health Officers Meet.—The North Carolina State Health Officers Association, composed of health officers, county, physicians, quarantine officers, medical inspectors of schools, and others interested in public health work met in conference in Pinehurst, April 15, under the presidency of Dr. Darius C. Absher, Henderson. The morning session was devoted to the discussion of quarantine and control of contagious diseases. The afternoon was occupied in the inspection of the state sanatorium for the treatment of tuberculosis, and in the evening, medical inspection of schools and the treatment of defective children were considered.

OHIO

Tuberculosis Items.—Final action on the proposition to establish a district tuberculosis hospital for the counties of Lorain, Erie, Huron, Ottawa, and Sandusky was taken at a meeting of the five boards and of the county commissioners held in Lorain, April 11.——At a conference of the governor with Dr. Stephen A. Douglass, superintendent of the Ohio State Sanatorium, Mount Vernon, and Mr. D. S. Creamer of the state board of administration held in Columbus, March 21, it was decided to erect additional cottages at the Mount Vernon institution, to care for the Ohio soldiers who may develop tuberculosis while in military service.

Personal.—Dr. Martin Friedrich, Cleveland, municipal medical expert, was seriously injured, March 30, in a collision between the automobile in which he was riding and a motor truck.——Dr. R. W. Cole, city epidemiologist of Akron, has left for his new post of duty as director of West Virginia's division of communicable diseases, public health, education, and statistics, with headquarters at Charleston.——Dr. Francis W. Firmin, Findlay, announces his retirement from the practice of medicine.——Dr. Thomas G. McCormick has been made local surgeon to the Chesapeake and Ohio system at Portsmouth, succeeding Dr. Orin W. Robe, who has resigned to enter military service.——Dr. Walter H. Rieger, Cleveland, for eight years surgeon for the Cleveland Railway Company, has been appointed house surgeon at the Manhattan Hospital, New York.——Dr. Herman S. Rhu, Marion, fractured his right arm and dislocated his right wrist while cranking his automobile, March 19.

Cincinnati

Personal.—Dr. Joseph W. Kirgan, Hyde Park, has resigned as a member of the state fish and game commission to take up oversea service under the auspices of the Y. M. C. A., as building secretary.——Dr. Emerson A. North has been superintendent of Longview Hospital, succeeding Dr. Frank W. Harmon, who resigned after thirty-seven years of service.——Dr. Frank H. Lamb has sailed for France to work with the American Red Cross Bureau of Infant Welfare.——Dr. Frank Scherrer, Norwood, sustained severe bruises in a collision between his automobile and a trolley car, March 26.——Dr. Walter E. List, assistant superintendent of the Cincinnati General Hospital, has been appointed acting superintendent during the absence of Dr. Arthur C. Bachmeyer, who is in military service.——Dr. E. A. Martin, assistant superintendent of the antituberculosis hospital, has been appointed acting superintendent of the institution.

PENNSYLVANIA

Personal.—Dr. Frederick W. Roberts, Plymouth, has brought suit for $50,000 damages against Hanover County and a local contractor on account of the death of his wife in an automobile accident several months ago.——April 4, the Clinton County Medical Society tendered a banquet to Dr. Luther M. Holloway, Salona, who has completed half a century of practice, and Dr. Francis P. Ball, Lock Haven, who has resumed practice.——Dr. John W. Wright has been reelected health officer of Erie for the thirty-third consecutive term.——Dr. J. C. Stern, Goldsboro, suffered a cerebral hemorrhage at New Cumberland, March 27.——Dr. Isaac Simon, Elizabethtown, while making a professional call recently, was shot and seriously wounded by the chief of police, who mistook him for a burglar.——The Lackawanna County Medical Society gave a banquet, March 20, in honor of its former president, Capt. Daniel A. Webb, C. A. M. C.——Drs. Simon S. Koser and Cynthia E. Koser, Williamsport, have started on a two-year trip to the British coast and Alaska.

Philadelphia

Personal.—Dr. James P. Hutchinson, in charge of the American Military and Red Cross Hospital No. 1 at Neuilly, has been honored with the French Cross for his hospital work in France. Dr. Hutchinson was a member of the staffs of the Pennsylvania and University Hospitals until he went to France in 1915 with the University of Pennsylvania Hospital Unit, of which the late Dr. J. William White was the head. Since Dr. Hutchinson has been in France, reports have reached here telling of his brilliant work for the wounded soldiers. The Cross of the Legion of Honor was bestowed on him a few weeks ago.——A dinner in honor of Dr. Samuel D. Risley, the father and dean of American ophthalmologists, who is retiring from public practice after forty-eight years of continuous service, was given, May 1, by the ophthalmologists of Philadelphia and other leading medical men. The testimonial meeting was presided over by Dr. G. Oram Ring. A silver loving cup was presented to Dr. Risley.

TEXAS

Baby Hospital Opened.—The Fort Worth Baby Hospital was formally opened, March 21. The hospital was built by the women's clubs of the city. Dr. Khleber H. Beall is resident physician of the institution.

State Society Meeting.—The annual meeting of the State Medical Association of Texas will be held in San Antonio, May 14-16. An exhibition of field hospitals will be given, May 13, and the entire meeting of the association will have a strong military trend as San Antonio is practically an armed camp.

VIRGINIA

Piedmont Tuberculosis Sanatorium Open.—The Piedmont Sanatorium for the treatment of tuberculous colored persons is now open and sixteen patients have been provided for in the institution. Forty beds are now available, and by fall it is expected that the capacity will be increased to eighty. This is a state institution and the nominal charge of $2 a week is made for each patient. This is the first institution in the state for the care of tuberculous colored patients. Dr. H. G. Carter is the active head of the sanatorium.

CANADA

Personal.—Lieut.-Col. Charles H. Gilmour, Toronto, who has been overseas for more than two years, and recently has been made chief surgeon at the Ontario Military Hospital,

Orpington, is returning to Toronto.——Col. George E. Armstrong, Montreal, consulting surgeon to the Canadian Expeditionary Forces in England, is returning to Montreal.——Col. Charles A. Hodgetts, Ottawa, who has been overseas since the beginning of the war as Canadian Red Cross commissioner, is reported to have been given a position as deputy commissioner of medical services. Lady Perley, the wife of the Canadian High Commissioner in London, recently gave a reception in Colonel Hodgett's honor, at which he was presented with silver articles and an illuminated address by the Canadian Red Cross staff in London, England.——Col. Arthur E. Ross, Kingston, Ont., director-general of medical services, First Canadian Division, has recently been presented with the *Croix de Guerre* by the Belgian government.——Major William C. Laidlaw has been appointed deputy director of medical services at the Canadian Army Corps headquarters in France.——Major Claude E. Fortin is slated for chief of medical services in No. 10 (Winnipeg) Canadian Military District, succeeding Dr. Wellington H. Reilly, who is being transferred to Toronto for an important appointment.——Capt. Willis C. Connell has been serving for a year and a half in a British hospital, German East Africa. His home is at Prescott, Ont.——Capt. George F. Lewis, East View, Ont., went overseas in April, 1917, as medical officer. He served for a time with the Scottish Borders and then went to France. At present he is back in England and has charge of the men undergoing remedial treatment at Seaford, Sussex, England.——Lieut. Frank J. Elkerton, Chamberlain, Sask., who was for a time with the University of Toronto Base Hospital, has recently been appointed to the army medical board, Riseborough Barracks, Folkstone, England.——Capt. O. J. S. Little, Seaforth, Ont., has received an appointment at the Ravenscroft Hospital, Seaford, England.——Lieut. Alexander E. Macdonald, Brantford, Ont., is now serving as medical officer to a Toronto battalion of the first division.——Capt. Arthur C. Armstrong, M. C., C. A. M. C., medical officer of the Ross Military Hospital, Regina, Alta., has been elected a Fellow of the Royal Institute of Public Health of London. He has received both the Military Cross and the *Croix de Guerre*.——Capt. Oswald J. Day of the Royal Medicals, Toronto, recently received a bar to his Military Cross for leading bearers through the enemy barrages and effecting the recovery of wounded close to the German lines.——Dr. William E. Gallie, orthopedic surgeon, Toronto, has gone to England.——Capt. Willard E. Hodgins, Lucan, Ont., is in Wellington, India, in charge of a British hospital.——Capt. James D. Shields, Mount Albert, Ont., has been appointed to the pension board at Ottawa.——Dr. Basil C. H. Harvey, Toronto, '98, is now with No. 13 Base Hospital, Fort McPherson, Atlanta, Ga.

GENERAL

Sanitarians to Meet.—The Southeastern Sanitary Association will hold its annual meeting at Knoxville, Tenn., May 20 to 22. Dr. Charles E. Smith, Greenville, N. C., is secretary of the organization.

Meeting Indefinitely Postponed.—According to a notice sent out by the secretary, Dr. Collier F. Martin, Philadelphia, the American Proctologic Society has decided not to hold its meeting in Chicago, June 10 and 11. The society will probably not meet again until after the war.

Gifts and Bequests.—The following gifts and bequests have recently been announced:

House of Rest for Consumptives, $10,000, New York; New York Nursery and Child's Hospital, $20,000; General Memorial Hospital for the Cure of Cancer and Allied Diseases, $50,000; New York Asylum for the Blind, $5,000, by the will of Mrs. Margaret E. Zimmermann, of New York City.

Census of Drug Addicts in the United States.—In order to determine more accurately than has ever been done heretofore the number and distribution of drug addicts in the United States, the commissioner of internal revenue has requested every physician registered under the Harrison Narcotic Law to report the number of drug addicts for whom he prescribed or whom he treated, during the calendar year 1917. The information called for includes the number of male addicts of all ages, the number of male addicts between the ages of 21 and 31 inclusive, and the total number of female addicts of all ages. The questionnaire sends out calls for the name and address of every male addict between the ages of 21 and 31 inclusive, which represents practically all males within the draft age.

The term "drug addict" is defined as meaning "any person who is a confirmed user of opium or coca leaves, their salts, derivatives, or preparations." The information called for is said to be absolutely necessary for the use of the government in its work incident to the war, and strictest confidence is promised.

FOREIGN

Peruvian Hospital at Paris.—The Franco-Peruvian Hospital, maintained by the Peruvian colony in Paris, was formally inaugurated at 8 avenue d'Iéna in April. The hospital is for wounded and sick soldiers and is equipped with eighty beds.

Deaths in the Profession Abroad.—R. Rivalta, an Italian dermatologist and writer on his specialty, aged 46.——**S. Pansini,** professor of clinical medicine at the University of Naples, and one of the leading clinicians of Italy.——**A. Montuori,** instructor in physiology at the University of Rome and director of the Institute for physical education and experimental physiology.——**C. Vibert,** director of the laboratory for forensic medicine at the University of Paris and inspector general of the Morgue, author of numerous works on legal medicine and toxicology.

MEXICO, CENTRAL AND SOUTH AMERICA

Children's Sanatorium in Peru.—The Sociedad de Beneficencia Publica of Lima, Peru, has planned to construct a sanatorium for a colony of a thousand poor children, and donations have already been received insuring its realization.

Cumulative Index of the Revista Medica del Uruguay.—Our Montevideo exchange has just issued a single, comprehensive index for the twenty volumes of the *Revista* that have appeared to date. It forms a pamphlet of seventy-five pages.

Inter-University Gift of Casts.—The medical faculty of the University of Rio de Janeiro recently sent as a gift to the medical faculty of the University of Montevideo a set of wax models of some recent interesting cases in the dermatologic clinic.

Merging of Public Health Departments.—The *Revista Medica del Uruguay* mentions that the government of Paraguay is planning to combine the Asistencia Publica and the Departamento de Higiene under a single director-general and board of four members.

Milk Congress in Uruguay.—The minister of industries in Uruguay and the Consejo Nacional de Higiene organized in February at Montevideo a conference of persons connected with the dairy business and milk distribution, and the local medical and pediatric and the national veterinarian societies.

National Academy in Uruguay.—The government is now discussing the foundation of the Academia de Ciencias, Artes y Letras del Uruguay. It is proposed to have it composed of five institutes, one each for the medical sciences, the political sciences, the exact sciences, physics and nature and for arts and belles lettres.

Municipal Milk Distribution in Costa Rica.—The *Revista Medica del Uruguay* states that the medical faculty of the University of San José, Costa Rica, has appealed to the government for permission—which has been granted—for the municipality to assume charge of the distribution of milk, that is, to found an *expendio de leche*.

Data on Antityphoid Vaccination.—The Consejo Nacional de Higiene of Uruguay has sent a notice to all the physicians of the country instructing them, in sending in their notification of cases of typhoid fever, to specify whether the patient had been vaccinated against typhoid, and if so, to state the source of the vaccine, the number of injections, and the dates when they were made. The *Revista Medica* reproduces this notice with a word of comment on the value for the future estimation of antityphoid vaccination of data thus collected.

Conference on Typhus in Mexico.—The committee appointed at the recent national medical congress in Mexico to organize a conference on typhus, announces the date for Jan. 15 to 22, 1919, and urges collection of data by all the physicians of the country, giving a long list of questions to aid in compiling them for ready comparison, especially information in regard to the months when the typhus prevailed, the weather, rains, dust, association or precedence of other infectious diseases, conditions as to fomites, housing, etc. All communications and questions on the subject should be addressed to Dr. F. Ocaranza, San Juan de Letran, No. 19, Mexico, D. F. The complete list of questions and suggestions is given in Dr. Vasconcelos' Pagina Medica of *El Universal*, April 6, 1918.

PARIS LETTER

PARIS, April 4, 1918.

Bread Made Directly from Wheat Grain

At a recent meeting of the Académie de médecine, Drs. Leprince and Lecoq called attention to a new method of making use of grain by a direct and rapid panification, a method proposed by Pointe, of the army commissary department. The principle of this new method of procedure is as follows: The unmodified grain, just as it is gathered, is cleaned mechanically under a current of water; following this it is made to absorb by maceration at 50 degrees the water necessary to its complete hydration, in the presence of a trace of alcoholic yeast, the development of which should prevent any harmful secondary fermentations. Then the wheat is crushed between grooved cylinders and depulped by being forced through a metal drum sieve which sifts out the bran from the starch and nitrogen which alone are suitable for human food. The paste thus prepared contains the water necessary for bread-making, and all that is necessary then is to add the normal quantity of yeast, and then to go on with the baking as under the ordinary conditions. The yield by this procedure attains to 75 to 76 per cent. of the quantity of the wheat employed, and it is to be expected that with perfection of the mechanical part of the method it will be possible to attain to 80 per cent. of extraction, which would correspond to about 115 kilograms of bread for 100 kilograms of the wheat. The bread so prepared is of a perfect quality. As for the bran, it is used to make cakes for the feeding of cattle.

Restrictions Concerning the Regulation Bread

In a previous letter was published the decree regulating the manufacture and sale of certain food commodities. A new decree has been issued regulating the manufacture and consumption of the regulation breads and flours. Gluten bread should consist of two parts of gluten; casein bread should consist of one part of casein to four of flour. The bread ticket calling for 100 grams of bread for current consumption entitles the holder to 50 grams of the *pain de régime*. The *pain de régime*, the flours *de régime* and other flour products containing cereals, legume flours, starch flour or any kind of flour, chocolate and cocoa must bear a label indicating the contained materials and the weight of each.

The Service of the American Red Cross

The American Red Cross merits a new tribute of recognition for the helpful rôle it has held since the beginning of the last offensive pertaining to the inhabitants of the departments of the Somme and the Aisne. At Montdidier, Noyon and Lassigny the American delegates have installed themselves to work on the reconstruction of the destroyed homes, restoring the land for cultivation. A number of trucks or lorries were placed at the disposal of the inhabitants to transport them to the rear, thus facilitating the railway service. The evacuated were directed to various hospital centers created in France by the Americans during the past two years. Furthermore, thousands of refugees have been fed and even hospitalized in Paris by the American Red Cross.

Saloons in the War Zone

The minister of finance has decreed that the wine shops at the front, transformed by order of the military authorities into hygienic establishments, need not pay any license fee on condition that the tenants in these establishments do not have, either in their cellars or in local storehouses, any alcoholic or spirituous liquors, and that they sign a declaration by which they agree to sell only hygienic or soft drinks.

LONDON LETTER

LONDON, April 9, 1918.

More Physicians Wanted for the Army

The concentrated German attack on the western front has involved many casualties as well as some loss of medical men. The result is a demand for still more physicians for the army. The government has made an urgent appeal for physicians to come forward with offers of voluntary service to meet the pressure. Those now in the country who have relinquished their commissions are asked to rejoin. Secondly, the age for service has been extended and physicians under the age of 55 who are physically fit are asked to offer their services either at home or abroad. A physician responding to the appeal is promised that if he desires to return home or his presence is urgently needed to meet civil requirements his case will be reviewed at the close of the present crisis, and in any circumstances not later than six months after the date of joining, with a view to his being released, unless the ministry after considering the military and civil necessities of the time in consultation with the professional committee decides that this is impossible from a military point of view. The medical losses during the German offensive do not appear to have been great as regards personnel. The staffs of the advanced clearing stations were mostly safely evacuated, though in many this did not take place until the last moment, and, indeed, while some were in the firing line. As far as possible the sisters were sent back first, then the patients, and finally the medical men.

The Segregation of Neurasthenic Soldiers

Considerable controversy has arisen in consequence of a statement by Mr. Hodge, the minister of pensions, that a system of hospitals devoted to the treatment of neurasthenics invalided from the army is not the best plan. He wanted "neurasthenic cases mixed up with other cases so that the cheery chap might shed some of the sunshine of his presence over the others." Medical opinion does not agree with this. A neurologic conference at the War Office recommended that all soldiers suffering from a functional nervous disorder should be segregated in special hospitals, staffed by physicians specially trained for this work. It is true that some of the milder cases require only convalescent treatment in boarding houses or other homes, but the graver cases of shell shock and other nervous disorders require something more, and it has been found that treatment in special hospitals is successful, as many as 90 per cent. being rendered fit for civil work. Interesting testimony in favor of this treatment has been furnished by a letter sent to the committee of the Home of Recovery, Golders Green, by the patients under treatment. They state that they have benefited and in many cases recovered, and express satisfaction with the institution: "Our past experiences in general hospitals have taught us to appreciate being separated from other cases, especially from the so-called cheery man." They prefer the risk of an air raid to going into another hospital.

A Smaller Army Medical Advisory Board

The Army Medical Advisory Board has been reconstituted as follows: president, Lieut.-Gen. T. H. J. C. Goodwin, C.B., C.M.G., D.S.O.; members, Major-Gen. Sir B. E. Dawson, G.C.V.O., C.B.; Major-Gen. Sir B. G. A. Moynihan, C.B., F.R.C.S.; Col. W. H. Horrocks, C.B.; Col. Sir Robert Jones, C.B., F.R.C.S.; Lieut.-Col. Sir H. J. Stiles. The board has thus been considerably reduced in size. The only member of the old board retained is Colonel Horrocks, expert in sanitation. Sir Robert Jones, director-general of military orthopedic surgery for the British Isles, has during the war enhanced his already great reputation as an orthopedic surgeon, and has rendered considerable service to the army.

Marriages

LIEUT. JACQUES HENRY GREEN, M. R. C., U. S. Army, Waterbury, Conn., on duty at the Department Laboratory, Southern Department, Atlanta, Ga., to Miss Agnes Sybil Lewis of New York City, at New York City, April 30.

CAPT. HAROLD ENSIGN BENNETT PARDEE, M. R. C., U. S. Army, to Miss Dorothy Dwight Porter, at Hewlett, L. I., N. Y., April 15.

LIEUT. MONROE BRADFORD KUNSTLER, M. R. C., U. S. Army, to Miss Francis Mandelbaum, both of New York City, April 29.

LIEUT. BROOX CLEVELAND GARRETT, M. R. C., U. S. Army, Shreveport, La., to Miss Bessie Gray of Butler, Ala., on April 6.

JAMES SAMUEL GOODRICH to Miss Mary Adelaide Cleveland, both of Lexington, Ky., at Covington, Ky., April 19.

LIEUT. THEODORE THOMAS BATSON, M. R. C., U. S. Army, to Miss Aline Catharine Pinera, at New Orleans, April 21.

EDWARD JAMES ROGERS, Pittsford, Vt., to Miss Alma J. Hoykendorf of Scarsdale, N. Y., April 27.

WILLIAM H. MCKAY to Miss Gertrude Selden Hicks, both of Bayside, L. I., N. Y., April 24.

ROLL HARRISON MARKWITH to Miss Ethel A. Davis, both of Columbus, Ohio, about April 21.

Deaths

Wallace R. Hunter, Erie, Pa.; University of Pennsylvania, Philadelphia, 1890; aged 52; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; acting assistant surgeon of the United States Public Health and Marine Hospital Service; attending surgeon to the Hanot Hospital, Erie, Pa.; a member of the medical staff of St. Vincent's Hospital; a member of the board of trustees of the state hospital at Warren; one of the founders of the Erie Municipal Hospital; died at his home, April 20.

William Arthur Moore, Binghamton, N. Y.; Columbia University, College of Physicians and Surgeons, 1885; aged 58; a Fellow of the American Medical Association; a fellow of the American College of Surgeons, and the American Academy of Medicine; surgeon to the Moore-Overton Hospital, Binghamton; surgeon of the Delaware and Lackawanna and Western Railroad; the Binghamton Traction Company, and the Delaware and Hudson Railroad; died at his home, April 26.

Lieut. Burt Jacob Asper, M. R. C., U. S. Navy, Chambersburg, Pa.; University of Maryland, Baltimore, 1911; aged 29; a Fellow of the American Medical Association; clinical assistant and assistant physician in the Sheppard and Enoch Pratt Hospital, Towson, Md., from 1912 to 1915; instructor of clinical pathology in the University of Maryland, 1912 to 1913; assistant physician to the Springfield State Hospital, Sykesville, Md., 1915-1917; surgeon on the U. S. S. *Cyclops*, which was lost at sea in April.

Henry Ebenezer Handerson, Cleveland, Columbia University, College of Physicians and Surgeons, 1867; aged 80; a member of the Ohio State Medical Association, and the Cleveland Academy of Medicine; formerly emeritus professor of hygiene and sanitary science in Cleveland College of Physicians and Surgeons; also an author of many medical subjects; died suddenly at the home of a friend, April 20, from cerebral hemorrhage.

Elmer M. Eckard, Peoria, Ill.; Rush Medical College, 1896; aged 45; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society, and American Association of Railway Surgeons; formerly coroner of Peoria; chief surgeon of the Toledo, Peoria and Western Railway; and local surgeon for the Chicago, Peoria and St. Louis Railway; died at his home, April 21.

Edgar Fossin Green, State Sanatorium, Minn.; Medical College of the State of South Carolina, 1908; aged 43; a Fellow of the American Medical Association; formerly a member of the South Carolina State Medical Association; formerly of the state reformatory at St. Cloud, Minn.; died in Walker, Minn., April 23, from pulmonary tuberculosis.

William Alexander Ewing, New York City; Bellevue Hospital Medical College, New York City, 1869; aged 75; a Fellow of the American Medical Association; a member of the New York Academy of Medicine; formerly sanitary superintendent of the New York City Health Department; associate member of the surgical staff of the New York City Railway; died at his home, April 21.

Surg. Lieut.-Com. William Henry Rush, U. S. Navy, retired, Ardmore, Pa.; University of Pennsylvania, Philadelphia, 1873; aged 65; formerly surgeon on the training ship *Saratoga;* he was commissioned as assistant surgeon in the Navy, Feb. 13, 1877; three years later he became passed assistant surgeon, and was promoted to surgeon in 1894; died at his home, April 26.

Edith Anderson Van Dyke, Faribault, Minn.; Women's Medical College of Philadelphia, 1909; aged 37; assistant physician at the Faribault State Hospital for the Feebleminded, and a member of the school board; formerly a member of the staff of the Walker Sanitarium; died at the Faribault State School for Feebleminded, April 18, from pneumonia.

William Lomax Graves, Los Angeles; Medical College of Georgia, Augusta, 1859; a veteran of the Civil War; founder of the Farmers' Bank at Fresno; and helped to establish the National Bank of California; and formerly president of the Merchants National Bank; died at his home, April 7.

Died in the Service
IN FRANCE
ATTACHED TO BASE HOSPITAL 18.
LYLE BARNES RICH, M.D., 1891-1918

Died in the Service
AT CAMP SHERMAN, OHIO
CAPT. PETER L. S. KEOUGH, M. R. C., U. S. ARMY, 1889-1918
(*See The Journal, May 4, p. 1322*)

Died in the Service
LOST AT SEA ON THE CYCLOPS
LIEUT. BURT JACOB ASPER, M. R. C., U. S. NAVY, 1888-1918

Daniel U. Wadsworth, Tulsa, Okla.; Medical Department of the University of the South, Sewanee, Tenn., 1898; aged 43; a member of the Oklahoma State Medical Association; formerly professor of surgery in the Mississippi Medical College; died at his home, April 13, from pneumonia.

James H. Craig, Mansfield, Ohio; Western Reserve University, Medical Department, Cleveland, 1885; aged 60; formerly a Fellow of the American Medical Association; a member of the Ohio State Medical Association; formerly city health officer; died at his home, April 10, from interstitial nephritis.

Charles G. Shipman, Oceanpark, Calif.; Rush Medical College, 1881; aged 61; a Fellow of the American Medical Association; formerly health officer of Santa Monica; director of the First National Bank of Ocean Park; died suddenly, April 10, in his office, from heart disease.

Charles Bowman Sturtevant, Manchester, N. H.; Dartmouth Medical School, Hanover, N. H., 1875; aged 67; a member of the New Hampshire Medical Society; formerly superintendent of schools of New Boston, N. H.; died at his home, April 12, from arteriosclerosis.

Lyle Barnes Rich, Willow City, N. D.; Johns Hopkins University, Medical Department, Baltimore, 1918, aged 26; died from typhoid fever in Base Hospital 18, December 18, 1917, while with the American Expeditionary Forces in France.

Guy Sumpter Waters, Prospect Station, Tenn.; Vanderbilt University Medical Department, Nashville, 1911; aged 37; a member of the Tennessee State Medical Association; died April 11, from a gunshot wound, self inflicted while despondent, it is believed.

Robert Shields Stedman, Brooklyn; Columbia University, College of Physicians and Surgeons, New York, 1880; aged 76; formerly a well known practitioner of Manhattan; retired for twenty-eight years; an inventor; died suddenly, April 13, from heart disease.

William Bratten Munford, Banks, Ore.; Kansas Medical College, Topeka, 1905; aged 44; formerly a Fellow of the American Medical Association; a member of the Oregon State Medical Association; died in Colorado Springs, April 10.

Oliver Allen McIntosh, Macomb, Ill.; Rush Medical College, Chicago, 1903; aged 53; formerly a Fellow of the American Medical Association; died at the Marietta Phelps Hospital, Macomb, Ill., January 8, from septic infection.

Willard Ammi Long, Lewiston, Mont.; Cooper Medical College, San Francisco, 1882; aged 59; formerly a Fellow of the American Medical Association; formerly health officer of Fergus County; died in Miami, Fla., about April 12, from acute dilatation of the heart.

William C. Wilkerson, Paris, Ky.; University of Louisville, Ky., 1881; aged 63; formerly a Fellow of the American Medical Association; formerly a practitioner of Little Rock, Ark.; died at his home, April 11, from cancer.

Jacob Stickel, Williamsport, Pa.; University of Michigan, Medical School, Ann Arbor, 1867; aged 73; formerly a member of the Medical Society of the State of Pennsylvania; died at the Williamsport Hospital, March 26.

John Boice Whittaker, Central City, Neb. (license, Nebraska, 1891); aged 73; a veteran of the Civil War; formerly coroner of Merrick County, and at one time Mayor of Central City; died at his home, April 5.

Richard H. Alfred, Dayton, Va.; Victoria University, Medical Department, Coburg, Ont., 1862; aged 83; formerly a member of the Medical Society of Virginia; died at his home, February 19, from senile debility.

H. Williams Smith, Crookston, Minn.; University of Minnesota, Minneapolis, 1897; aged 52; formerly a Fellow of the American Medical Association; died at his home, March 13, from heart disease.

George F. Brubaker, Springfield, Ohio; Medical College of Ohio, University of Cincinnati, 1893; aged 55; formerly president of the City Hospital staff; died at his home, April 10, from diabetes.

Charles Frank Ruch, Summithill, Pa.; Jefferson Medical College, Philadelphia, 1891; aged 48; a Fellow of the American Medical Association; died at his home, April 10, from rheumatic fever.

John A. Wheeler, Chicago; University of Michigan, Department of Medicine and Surgery, 1852; aged 90; was burned to death at his summer home in South Haven, Mich., April 28.

Alfred Stratford, Indianapolis; University of Louisville, Ky., Medical Department, 1871; aged 73; also a druggist; died at his home, January 20, from organic heart disease.

John Plutarch Avery, Indianapolis, Ind.; Bellevue Hospital Medical College, New York, 1866; aged 76; died at the Methodist Episcopal Hospital, Indianapolis, April 9.

Edwin Timothy Rucker, Richmond, Va.; Kentucky School of Medicine, 1877; aged 64; a Fellow of the American Medical Association; died at his home, April 9, from nephritis.

Anna Colby Smith Grigsby, Concordia, Kan.; Homeopathic Hospital College, Cleveland, 1883; aged 69; died at her home, January 8, from cerebral hemorrhage.

Charles Henry Wheeler, Fall River Mills, Calif; Eclectic Medical College, Cincinnati, 1889; aged 58; died at his home, April 11, from cerebral hemorrhage.

Emeline Tanner, Fairmont, Minn.; University of Michigan, Homeopathic Medical School, 1880; died in California, April 2, from heart disease.

J. Edwin Frazier, Tuolumne, Calif.; Louisville, Ky., Medical College, 1885; aged 62; died at Dr. Bromley's Sanitarium in Sonora, Calif., April 7.

Firmen C. Brooke, Chicago; Eclectic Medical College of Pennsylvania, Philadelphia, 1866; aged 75; also a druggist; died April 16.

Jane V. Myers, Philadelphia; Pennsylvania Medical College, Philadelphia, 1853; aged 87; died at her home, March 27.

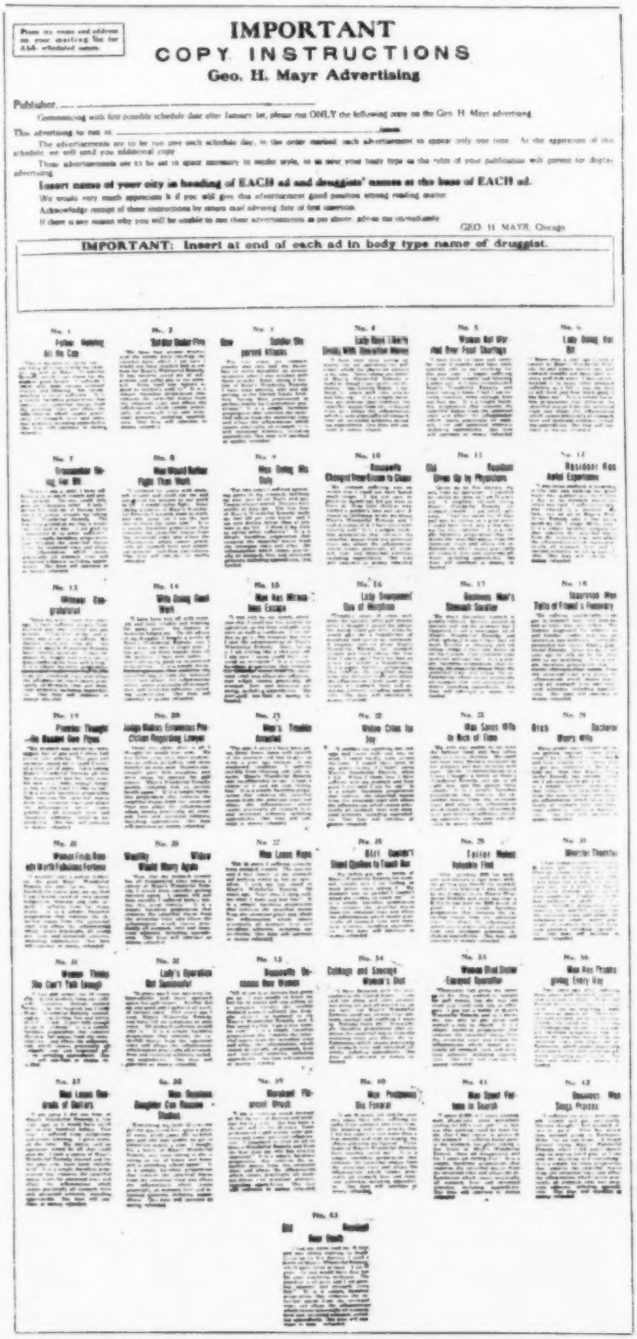
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

MAYR'S WONDERFUL STOMACH REMEDY ADVERTISING

Also Mayr's Wonderful, Universal, Ready-Made Testimonials

"Mayr's Wonderful Stomach Remedy" has been the subject of more than one article in THE JOURNAL. Briefly, it may be said, for those who have forgotten this picturesque humbug,



IMPORTANT
COPY INSTRUCTIONS
Geo. H. Mayr Advertising

Publisher.....

Commencing with first possible schedule date after January 1st, please run ONLY the following copy on the Geo. H. Mayr advertising

This advertising to run in .....

The advertisements are to be run once each schedule day, in the order marked; each advertisement to appear only one time. At the expiration of this schedule we will send you additional copy.

These advertisements are to be set in space necessary to insure style, in no way your body type as the rules of your publication will permit for display advertising.

Insert name of your city in heading of EACH ad and druggists' names at the base of EACH ad.

We would very much appreciate it if you will give this advertisement good position among reading matter.

Acknowledge receipt of these instructions by return mail advising date of first insertion.

If there is any reason why you will be unable to run these advertisements as per above advise me immediately.

GEO. H. MAYR, Chicago

IMPORTANT: Insert at end of each ad in body type name of druggist.

Reduced photographic reproduction of the "Copy Instructions" sent out to newspapers by George H. Mayr. The original was 16 inches by 32 inches. Notice that the newspapers are told (in black-faced type) to "insert name of your city in heading of each ad." This means, in effect, that the newspaper accepting this contract, agrees for a financial consideration knowingly to deceive and mislead its readers.

that it is a "patent medicine" adaptation of the old "fake gallstone" trick. The trick consists in administering a large dose of some such oil as olive, peanut or cottonseed, followed by a saline cathartic. The result of taking this combination is the passage of a number of soapy concretions which the victim is persuaded to believe are gallstones.

"It Removes Gall Stones and Shows Them to You" used to be the claim that appeared on the bottles of the "Wonderful Remedy." This disappeared after the federal Food and Drugs Act began to be a force for good. However, Mayr was not quite as shrewd as he might have been, for he continued to make claims in the trade package to the effect that his stuff was "a positive remedy for appendicitis" and "absolutely the best, most positive and permanent remedy for all stomach, liver and intestinal diseases." These claims, and some others, the government rightly charged were "false and fraudulent" and had been applied by Mayr "knowingly and in reckless and wanton disregard of their truth or falsity." Although Mayr was given an opportunity to prove that his claims were true, he pleaded guilty!

This was in December, 1915. Eighteen months later THE JOURNAL called attention to the fact that Mayr was then displaying in the windows of his Chicago store large placards containing not only essentially the same claims that the government had declared were fraudulent, and to which he had pleaded guilty, but claims that were even more false. Now, twenty-eight months later (May, 1918) Mayr still has painted over his store window the claim that his "Wonderful Remedy" is "the Only Known Cure for All Stomach, Liver and Intestinal Complaints"! Mayr's apparent contempt for federal authority may lie in the fact that the federal law cannot touch him for making false and fraudulent claims if he is careful to keep such claims off the trade package.

The present article, however, deals, not with his store-window advertising, but with his newspaper advertising. Mayr, it seems, is his own advertising agent and places his own "copy." In common with most "patent medicine" advertisers, his advertisements are of the testimonial type and the copy is frequently changed. Mayr's "Copy Instructions" to the papers are here reproduced in miniature. They consist, as will be seen, of forty-three pieces of advertising copy each with a heading in black-faced type, followed by what purports to be a quotation from a testimonial. Four of these pieces of copy (Nos. 34, 35, 40 and 41) are reproduced in such size as to be plainly readable. There are also reproduced four advertisements using the same "copy," each taken from copies of the Chicago *Examiner* of recent dates. It will be noticed that the copy furnished by Mayr differs from the advertisement as it appears in the papers, in that the latter has had inserted in the caption the name of the city in which the advertisements are published. For instance, the heading of Copy No. 35, as furnished by Mayr, reads:

"———— WOMAN GLAD SISTER ESCAPED OPERATION."

When this advertisement appears in, say, a Chicago paper, the newspaper carrying it obligingly inserts the name of the city, so that the heading reads:

"CHICAGO WOMAN GLAD SISTER ESCAPED OPERATION."

No. 34

Cabbage and Sausage Woman's Diet

"I have doctored with the best doctors in the United States. Some said one thing and some another was ailing me and all wanted to cut me open, but Mayr's Wonderful Remedy saved me, so now I eat cabbage, sausage and anything I want to. Nothing hurts me." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded.

No. 35

Woman Glad Sister Escaped Operation

"Physicians had given my sister up to die; they wanted to operate for gall stones, but she was too weak and could only talk in whispers. I got her a bottle of Mayr's Wonderful Remedy and in 3 weeks she was able to get about and walked a mile to church." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded.

No. 40

Man Postpones His Funeral

"I am 66 years old and for past two years have been suffering so badly from stomach and liver trouble, bloating and colic attacks that I did not expect to live more than a few months and was arranging my affairs and even my funeral. Three doses of Mayr's Wonderful Remedy have entirely cured me." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded.

No. 41

Man Spent Fortune in Search

"I spent $1,800 in 7 years treating with physicians, some specialists costing me $10 a visit, only to at last say that nothing could be done for me, that I had cancer or ulcers of the stomach. I suffered awful pains in my stomach, but after taking a few doses of Mayr's Wonderful Remedy these all disappeared and for 3 years am feeling fine." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded.

BUSINESS NOTICE

Cabbage and Sausage Chicago Woman's Diet

"I have doctored with the best doctors in the United States. Some said one thing and some another was ailing me and all wanted to cut me open, but Mayr's Wonderful Remedy saved me, so now I eat cabbage, sausage and anything I want to. Nothing hurts me." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. All Druggists.

BUSINESS NOTICE

Chicago Woman Glad Sister Escaped Operation

"Physicians had given my sister up to die; they wanted to operate for gall stones, but she was too weak and could only talk in whispers. "I got her a bottle of Mayr's Wonderful Remedy and in 3 weeks she was able to get about and walked a mile to church." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. All Druggists.

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Photographic reproduction (reduced) of four pieces of Mayr's advertising copy (on the left) and the same copy set up in the advertisement form as it appeared in some recent issues of the Chicago *Examiner*. Thus the *"Chicago* Woman" who had "doctored with the best doctors in the United States," all of whom "wanted to cut me open," would be a *St. Louis* woman, or a *Kalamazoo* woman, or an *Oshkosh* woman if the papers published in those cities could be hired to print the advertisements.

And the *"Chicago* Woman" would be a *"St. Louis* Woman," a *"Kalamazoo* Woman" or an *"Oshkosh* Woman" if papers published in those cities could be hired to print the Mayr advertisements. It will be noticed by again referring to the "Copy Instructions," which are reproduced in miniature, that the newspapers are told, in black-faced type, to "Insert name of your city in heading of EACH ad. . . ."

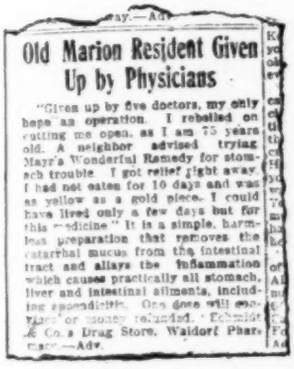
Was there ever a more cynical disregard for the elemental principles of common truthfulness and decent business methods? Here are what purport to be forty-three testimonials from people who have taken Mayr's Wonderful Stomach Remedy and received benefit or cure. The newspaper accepting this copy becomes frankly *particeps criminis* with Mayr in his lying campaign. Copy instructions alone prove that each of these forty-three testimonials is a distinct and separate lie and that these lies are to be multiplied by as many times as there are papers which will publish the advertisements.

Notice the testimonials in Copy Nos. 11 and 12: "Old —— Resident Given Up By Physicians" and "—— Resident

Has Awful Experience." Just notice our reproductions from the Marion (Ohio) *Daily Star*, the Austin (Minn.) *Daily Herald* and the Hornell (N. Y.) *Evening Tribune-Times*. Here we read that the "Old Austin Resident," the "Old Marion Resident" and the "Hornell Resident" have been "Given Up By Physicians" or had "Awful Experiences."

It is entirely in keeping with the type of ethics shown by Mayr in his advertising that he should have attempted to capitalize the present national situation:

"———— Soldier Under Fire."
"How ———— Soldier Dispersed Attacks."
"———— Lady Buys Liberty Bonds With Operation Money."
"———— Woman Not Worried Over Food Shortage."

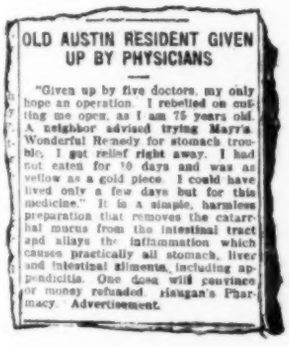


Old Marion Resident Given Up by Physicians

"Given up by five doctors, my only hope an operation. I rebelled on cutting me open, as I am 75 years old. A neighbor advised trying Mayr's Wonderful Remedy for stomach trouble. I got relief right away. I had not eaten for 10 days and was as yellow as a gold piece. I could have lived only a few days but for this medicine." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. Schmidt & Co.'s Drug Store, Waldorf Pharmacy.—Adv.

AUSTIN RESIDENT HAS AWFUL EXPERIENCE

"I was twice confined in hospitals, in the last one nothing but gruel water was injected into me 4 times a day, as my stomach would not retain any food. I suffered terribly; was reduced to a skeleton. My folks saw an ad of Mayr's Wonderful Remedy and it has surely saved my life. I weigh 180 lbs. now." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. Haugan's Pharmacy. Advertisement.

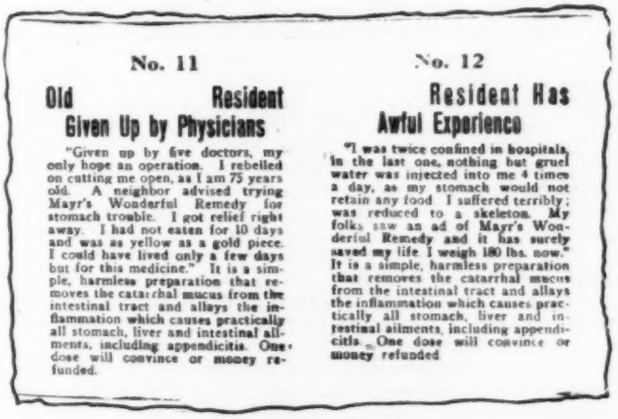


OLD AUSTIN RESIDENT GIVEN UP BY PHYSICIANS

"Given up by five doctors, my only hope an operation. I rebelled on cutting me open, as I am 75 years old. A neighbor advised trying Mayr's Wonderful Remedy for stomach trouble. I got relief right away. I had not eaten for 10 days and was as yellow as a gold piece. I could have lived only a few days but for this medicine." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. Haugan's Pharmacy. Advertisement.

Hornell Resident Has Awful Experience

"I was twice confined in hospitals, in the last one nothing but gruel water was injected into me 4 times a day, as my stomach would not retain my food. I suffered terribly; was reduced to a skeleton. My folks saw an ad of Mayr's Wonderful Remedy and it has surely saved my life. I weigh 180 lbs. now." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation that causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. Geo. Hollands & Sons, Hornell Drug Company. adv



No. 11

Old Resident Given Up by Physicians

"Given up by five doctors, my only hope an operation. I rebelled on cutting me open, as I am 75 years old. A neighbor advised trying Mayr's Wonderful Remedy for stomach trouble. I got relief right away. I had not eaten for 10 days and was as yellow as a gold piece. I could have lived only a few days but for this medicine." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded.

No. 12

Resident Has Awful Experience

"I was twice confined in hospitals, in the last one, nothing but gruel water was injected into me 4 times a day, as my stomach would not retain any food. I suffered terribly; was reduced to a skeleton. My folks saw an ad of Mayr's Wonderful Remedy and it has surely saved my life. I weigh 180 lbs. now." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded.

Photographic reproduction (reduced) of advertising copy Nos. 11 and 12 together with reproductions of four advertisements from the Marion (Ohio) *Daily Star*, the Austin (Minn.) *Daily Herald* and the Hornell (N. Y.) *Evening Tribune-Times*, respectively. One wonders whether these newspapers have ever heard of the movement toward "truth in advertising"!

Possibly Mr. Mayr, having found that, so far as his store-window claims are concerned, he can, figuratively speaking, put his thumb to his nose at Uncle Sam, may have figured that he is equally free to continue his present lying campaign in the newspapers. If this is Mayr's theory, we are of the opinion that it is likely to be revised.

Correspondence

PROTECTION AGAINST LICE

To the Editor:—In THE JOURNAL, April 27, 1918, p. 1247, your London correspondent mentions some important facts respecting the rôle of the louse as the cause of trench fever; and, from what is there said, it would appear that, while the typhus disease is conveyed by the bite of the louse, trench fever is the result of an infection from the other end of that insect. Indeed, it would seem that man, proud man, has been reduced to the last stage of physical degradation by being trodden on, preyed on, and his comfort, health and life placed in jeopardy by the excrement of this abhorred parasite—the indignity being literally rubbed into him in a double sense; and, in this connection, the means of prevention are of first importance—and as they appear to be simple and available, I now take the liberty of speaking on this subject.

In the accounts given of John Howard and his work in visiting English jails, prisons and lockups, where typhus was actively present, it is mentioned that he always bathed, and changed his clothes after visits to such centers of infection; but this sanitary recourse cannot have been the whole story, for it is not said that he ever suffered in bodily comfort or health from such extended benevolent ministrations.

The fact is known that the courts, where prisoners from such centers of virulent infection were tried, were sometimes broken up by the death from typhus of the judges and minor officials; but precisely how this fatal communication occurred has not been altogether made clear.

An early professional experience that I had in connection with service in a public institution may throw some light on the question; for, in dealing with emergency patients picked up in the streets, some of whom proved lousy, a very unfavorable prognostic sign was found in the decamping of lice from such a body—the probable explanation being that these parasites, being sensitive to temperatures, felt the coming chill as circulation ceased, and promptly departed, seeking lodgment elsewhere. That they are known to be capable of a considerable migration may explain the infection of judges on the bench.

In my personal experience as a country youth, it was common practice to smear with grease the arms and legs as a protection against wood ticks, chiggers, sand flies, lice, etc.; and, when well applied, this was an effective safeguard against such vermin. It is accordingly suggested that Howard must have known and used such means of defense; but he may not have been willing to let it be generally known through fear of the coarse ridicule too often visited on benefactors of the human race.

Some years ago when war broke out in the Balkan states and pandemic typhus appeared, a contingent of physicians from this country went over to lend their aid, and some of them died of that infection. In commenting on this sad dénouement even THE JOURNAL spoke of them as martyrs to science, an opinion I could not share; for, though it may seem ungracious to say so, they appeared to me rather as the victims of ignorance through not knowing the means of prophylaxis.

Any form of sticky fat that does not melt freely at body temperature seems effective, the explanation presumably being that the spiracles of the insect are clogged, and death by suffocation follows; while the newly hatched young die likewise when attempting to feed, even if the nits are not destroyed, as such.

It was recently stated publicly here, by a medical officer lately returned from France, that gasoline is not effective in dealing with body lice, and an explanation that occurs is that they are rather benefited by its solvent action in clearing the breathing pores of possible obstruction. It has been claimed, also, that silk underwear is useful, as the fiber is said to afford no foothold to the louse in its effort to pierce the epidermis; but an oiled fabric of any kind would be very likely to prove equally effective, if the contention as to the indicated physical difficulty of the insect is well based.

A suggestion of fatty agents for protective bodily inunction would be a combination of castor oil and tallow, sticky and substantial, not expensive, and which in use would probably meet all the leading indications. Petroleum products may be found equally effective.

George Homan, M.D., St. Louis.

MEDICAL SCHOOL RECOGNIZED IN NEW YORK

To the Editor:—Table D, published in The Journal, April 13, indicates that the University of Virginia Department of Medicine is not a registered medical school in New York and New Jersey.

With regard to New Jersey, I wish to state that this board dropped the University of Virginia without consulting or even notifying me. The first intimation I had of its action was a letter received a week ago from one of our graduates informing me that this board had declined to allow a graduate of this school to take the licensure examination until he had spent an additional year of study in one of their registered schools. A letter from the secretary of the New Jersey board informs me that their list of acceptable schools is the New York list.

With regard to New York, the University of Virginia was registered with the regents until the spring of 1917. It was then transferred to their list of "accredited" schools for the sole reason that at that time we were not ready to agree to the absolute prohibition of entrance conditions on certain parts of our two year college requirement. During the fall and winter of 1917 we had an extensive correspondence with this board, urging that special provision be made for entrance conditions in special cases. Our suggestions received careful and courteous consideration by the board, but the regents finally declined to change their rule, absolutely forbidding any entrance conditions whatever.

Although the University of Virginia was and still is strongly of the opinion that this is an unwise and unnecessary measure—and the editorial comment as well as Dr. French's paper shows that we are not alone in this opinion—still it was clear that it would be unfair to our school and its graduates to have them excluded from practice in the state of New York. We therefore voted in January to abolish all entrance conditions hereafter. When this action was reported to the regents, they restored the University of Virginia to their list of registered schools, Jan. 31, 1918.

I regret that my inadvertent failure to notify the Council on Medical Education of this action of the regents has led to an erroneous statement which can be only imperfectly corrected. The Journal, of course, is in no way to blame for the mistake.

Theodore Hough, Charlottesville, Va.
Dean, Department of Medicine, University of Virginia.

[Comment.—Table D is based on official reports received from the various state medical boards. Since its publication, however, New York has notified us that the University of Virginia Department of Medicine should not have been included among the medical schools not fully recognized by the Board of Regents, thus confirming Dean Hough's statement.—Ed.]

PEANUTS AS FOOD

To the Editor:—I have read with a great deal of interest the food articles appearing in The Journal in Current Comment. March 23, special reference was made to peanuts, and on page 1004, April 6, to the yield of food per acre. This comment referred especially to corn, and stated that 35 bushels of corn per acre produce 150 pounds of protein and more than 3,000,000 units of energy. Further reference was made to the soy bean.

The peanut is unusually interesting for several reasons: First, it produces an average of 1,000 pounds of nuts per acre, containing 2,000,000 units of energy and approximately 220 pounds of protein. If the peanuts are properly handled, they will produce about 500 pounds of peanut flour, which contains 44 per cent. of protein and 7.5 per cent. of fat. This peanut flour blends readily with all flour and flour substitutes as well as corn meals, and is now an official substitute for flour in Florida. When this thousand pounds of peanuts are crushed, they produce 300 pounds of edible oil. In addition, there is a yield per acre of hay, testing 13 per cent. protein, which is a most excellent food for live stock, which gives an additional 130 pounds of protein per acre.

The peanut can be grown all over the South, is one of the surest crops, and can be produced in less time, with less labor, at smaller cost than most of the staple crops. Every farmer in the South knows how to grow peanuts, and the South in 1919 could easily put in 10,000,000 acres. This would produce 3,000,000,000 pounds of fat, which would take care of the fat shortage, and 5,000,000,000 pounds of peanut flour, running 44 per cent. protein and 7.5 per cent. fats.

Allowing 4 ounces of protein per day for an adult under the most strenuous working conditions, this production could supply all the protein consumed by 24,000,000 adults under the most strenuous conditions for 365 days. This crop can be produced in four months from the time of planting, and the land on which it was planted can be planted with small grains during the other eight months. Without doubt, the peanut will produce more food for man and beast in less time, with less labor and less acreage than any other known crop. This is one crop than can be made to take care of both the meat and fat shortage.

We are manufacturers of peanut flour on a commercial scale, and it is being widely used throughout the South.

B. F. Williamson, Gainesville, Fla.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

COTARNIN HYDROCHLORID

To the Editor:—Please describe the action of cotarnin hydrochlorid and indications for its use. Is it derived from opium?

W. E. Smith, M.D., Rossford, Ohio.

Answer.—In New and Nonofficial Remedies, 1918, p. 83, cotarnin is stated to be an artificial alkaloid derived by oxidation from narcotin, by a process analogous to the derivation of hydrastinin from hydrastin (which again differs from narcotin only by an additional OCH_3 group). Cotarnin hydrochlorid is marketed as "stypticin," the phthalate as "styptol." Cotarnin is used systematically mainly against uterine hemorrhage; especially in menstrual menorrhagia, endometritis, and congestive conditions. It is ineffective against postpartum hemorrhage or bleeding from gross anatomic lesions, and probably also against hemorrhage in other internal organs. The clinical reports in its favor are often superficial and sometimes contradictory, but seem to justify the preceding statements. No satisfactory explanation for these actions has been established. The most probable is the (unproved) assumption of a special constrictor action on the uterine vessels. The circulatory changes observed in experiments are small and probably do not occur in the therapeutic use. The uterine stimulation observable on excised uteri probably does not occur in life. Local application of cotarnin in substance or concentrated solution has a direct vasoconstricting effect and is used in tooth extractions, epistaxis, etc.

Typhus Lesions.—E. Fraenkel relates that the roseola patches of typhus can be brought out again by applying a tourniquet to the limb, week after week, up to the tenth week after defervescence. In his communication on the subject in the *Münchener medizinische Wochenschrift*, No. 40, he remarks that probably the similar changes found in and around the arteries of the internal organs persist in the same way long after defervescenee. (From abstract in *Nederlandsch Tijdschrift.*)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular Board, Little Rock, May 14-15, Sec. Dr. T. J. Stout, Brinkley; Eclectic Board, Ft. Smith, May 13-14. Sec., Dr. C E. Laws, Ft. Smith.

CALIFORNIA: San Francisco, June 25. Sec., Dr. C. B. Pinkham, State Capitol, Sacramento.

DELAWARE: Wilmington, June 18-20. Sec., Dr. H. W. Briggs, Wilmington, Del.

FLORIDA: (E): Jacksonville, June 10-11. Sec., Dr. G. A. Munch, Tampa.

FLORIDA (H): Jacksonville, May 22. Sec., Dr. Geo. A. Davies, East Port.

GEORGIA: Atlanta and Augusta, May 30-June 1. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 3-7. Mr. F. C. Dodds, Supt. of Registration, Capitol Bldg., Springfield.

KANSAS: Topeka, June 18-19. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Louisville, May 28-30. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 6-8. Sec., Dr. E. W. Mahler, 730 Audubon Bldg., New Orleans.

MARYLAND: Baltimore, June 18-22. Sec., Dr. J. McP. Scott, Hagerstown.

MASSACHUSETTS: Boston, May 14-16. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

MICHIGAN: Ann Arbor, June 11-13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 4-6. Sec., Dr. T. S. McDavitt, 741 Lowry Bldg., St. Paul.

NEW JERSEY: Trenton, June 18-19. Sec., Dr. Alex. MacAlister, Trenton.

NEW YORK: Albany, Buffalo and Syracuse. May 21-24. Sec., Dr. W. J. Denno, Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 24. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.

OHIO: Columbus, June 4-7. Sec., Dr. H. M. Platter, State House, Columbus.

SOUTH CAROLINA: Columbia, June 11. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Knoxville, Memphis and Nashville, June 14-15. Sec., Dr. A. B. DeLoach, Exchange Bldg., Memphis.

TEXAS: Austin, June 18-20. Sec., Dr. M. F. Bettencourt, Mart.

VIRGINIA: Richmond, June 18-21. Sec., Dr. J. W. Preston, Roanoke.

WISCONSIN: Milwaukee, June 25. Sec., Dr. J. M. Dodd, Ashland.

Vermont February Examination

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the oral and written examination held at Burlington, Feb. 12, 1918. The examination covered 12 subjects and included 90 questions. An average of 75 per cent. was required to pass. Six candidates were examined, all of whom passed. One candidate was licensed through reciprocity, and 1 candidate was granted a reregistration license. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Rush Medical College		(1917)	89.6
Tufts College Medical School		(1918)	91.1
Vanderbilt University		(1917)	90.1
University of Vermont		(1917)	88.1, 88.3
McGill University		(1910)	88.1

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Vermont		(1902)	New Hamp.

Book Notices

THE IMMEDIATE CARE OF THE INJURED. By Albert S. Morrow, A.B., M.D., Clinical Professor of Surgery in the New York Polyclinic. Third edition. Cloth. Price, $2.75 net. Pp. 356, with 242 illustrations. Philadelphia: W. B. Saunders Company, 1917.

The recent great impetus to the study of the care of the sick and injured has been met in part by the formation of countless classes in first aid. An experience of several years as a teacher of such classes has impressed the reviewer with the desirability of a textbook that would give in greater detail than does the little Red Cross Manual (Women's Edition) the essential facts of the normal anatomy and physiology of the body in conjunction with a discussion of the cause and management of various pathologic changes with which the lay first aider might be expected to cope. Dr. Morrow's book appears to fill this need admirably. The first part is devoted to a consideration of the anatomy and physiology of the human body. The structure (gross and microscopic) and function of the various tissues and organs are presented in a clear, concise manner. The second part is a general discussion of bandages and slings, dressings, practical remedies, such as hot packs, enemas and counterirritants, and of antiseptics and disinfectants. In the third part the questions of how to act and what to do in emergencies are taken up in detail. Here the facts and principles described in the preceding parts are applied to specific cases. The book is well illustrated. While intended for the instruction of those who are not trained in medicine, it is probable that there are few physicians who could not peruse its pages with benefit.

Medicolegal

Freezing Is an Accident; Also, Heat Stroke

(State ex rel. Virginia & Rainy Lake Co. v. District Court of St. Louis County et al. (Minn.), 164 N. W. R. 585, State ex rel. Nelson v. District Court, Ramsey County, et al. (Minn.), 164 N. W. R. 917)

The Supreme Court of Minnesota says that the direct authorities upholding findings in freezing cases are few. That freezing is a personal injury within the meaning of the workmen's compensation act, the court says, in the first of the foregoing two cases, is not open to question. Nor is it to be questioned that within the statutory definition it is an "unexpected and unforeseen event," or that it is an event "producing at the time injury to the physical structure of the body." The difficult question is whether the requirement that the event be one "happening suddenly and violently" excludes it. Freezing comes suddenly and violently as distinguished from gradually and naturally or in ordinary course. In common talk a sudden or violent death is one occurring unexpectedly and not naturally or in the ordinary course of events. In some such sense the words are used in the statute. Their effect is not to exclude from accidental injuries all except such as result from physical force applied from without. A fair construction of the statutory definition does not exclude freezing, and the court holds that it is a personal injury caused by accident within the meaning of the act.

The freezing involved in the first case occurred in January, 1916. The workman was employed by the Virginia & Rainy Lake Company as a swamper in the woods in the northern part of St. Louis County. He was cutting and handling timber and making roads for swamping. He used an ax, handled the timber with his hands, and they came into contact with the snow. The weather was severely cold. He was 4 or 5 miles from camp. There were no facilities for warming. The building of fires was not permitted. It was not questioned that the employee received his injury, a freezing of his thumb which resulted in its amputation, in the course of his employment. But the court also thinks that the evidence fairly sustained the view that the character of his work subjected him to a risk of freezing not shared by the generality of the community and sustained a finding that the freezing arose out of the employment. It was not enough that it occurred while work was in progress. It must have arisen under such circumstances that a causal connection was traceable between the employment and the freezing, and the freezing must be more than a consequence, shared by the community in general, of exposure to cold.

In the second case, the court holds that the evidence sustained a finding that the injury to relator Nelson, a janitor, was one "arising out of his employment" within the workmen's compensation act, when, while shoveling snow from the sidewalks about a building in severely cold weather, he froze the great toe, which resulted in the amputation of the leg.

A similar question, the court says, is presented by cases involving sunstrokes or heat strokes, which are the subject of review in *State ex rel. Rau* v. *District Court*, 164 N. W. R. 916, a heat stroke case, wherein the evidence was held such as to authorize a finding that the injury arose out of the employment.

Society Proceedings

COMING MEETINGS

American Medical Association, Chicago, June 10-14.

Alpha Omega Alpha Society, Chicago, June 10.
American Climatological and Clin. Assn., Boston, June 5-6.
American Dermatological Association, Philadelphia, May 23-25.
American Gynecological Society, Philadelphia, May 16-18.
American Laryngological Association, Atlantic City, May 27-29.
Amer. Laryn., Rhin. and Otol. Soc., Atlantic City, May 29-30.
American Medico-Psychological Association, Chicago, June 4-7.
American Ophthalmological Society, New London, Conn., July 9-10.
American Otological Society, Atlantic City, May 28-29.
American Pediatric Society, Lenox, Mass., May 27-29.
American Proctologic Society, Chicago, June 10-11.
American Psychopathological Association, Atlantic City, May 11.
American Surgical Association, Cincinnati, June 6-8.
American Therapeutic Society, Richmond, Va., June 7-8.
Conference of State & Prov. Bds. of N. Amer., Washington, June 5-6.
Connecticut State Medical Society, Hartford, May 15-16.
Florida Medical Association, Tampa, May 15-16.
Illinois State Medical Society, Springfield, May 21-23.
Massachusetts Medical Society, Boston, June 18-19.
Mississippi State Medical Association, Jackson, May 14-15.
Montana Medical Association, Butte, July 10-11.
Nat. Assn. for the Study and Prev. of Tuberculosis, Boston, June 6-8.
New Hampshire Medical Society, Concord, May 15-16.
New Jersey Medical Society, Spring Lake, June 25-26.
New York State Medical Society, Albany, May 21-24.
North Dakota State Medical Association, Fargo, June 19-20.
Oklahoma State Medical Association, Tulsa, May 14-16.
Oregon State Medical Association, Portland, June 27-29.
Rhode Island Medical Society, Providence, June 6.
South Dakota State Medical Society, Mitchell, May 21-23.
Southern Minnesota Medical Association, Winona, Minn., June 24-25.
Texas State Medical Association, San Antonio, May 14-16.
Washington State Medical Association, July 10.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

April, 1918, **15**, No. 4

1 *Familial Splenomegaly. C. de Lange and J. C. Schippers, Amsterdam, Holland.—p. 249.
2 *Hydrocephalus of Poliomyelitis. J. G. Regan, Brooklyn.—p. 259.
3 *Experience with Vaccine in Prevention of Whooping Cough. F. Vander Bogert, Schenectady, N. Y.—p. 271.
4 Abdominal Injury Due to Blunt Force; Difficult Diagnosis. H. P. De Forest, New York.—p. 272.

1. **Familial Splenomegaly.**—Two cases which presented the clinical picture of splenomegaly of Gaucher's type were examined by De Lange and Schippers. There were seven children in this family. The enlargement of liver and spleen was already noticed in one child when 4 years old; in the other when 2 years old. There is every reason to believe that the disease in question is congenital in origin. The Wassermann reaction was, in the beginning, slightly positive. On later examination, carried out by another serologist, the test was slightly positive in the case of one girl, negative in that of the other child; on third examination, performed by the same serologist, the reaction proved negative in both instances. The first examination of the father's blood showed a slight leukopenia; the second and third were practically normal, although somewhat low; a relative lymphocytosis was always present. The other members of the family, the mother, paternal grandmother, maternal grandfather and maternal grandmother were negative. Based on the data obtained no other clinical diagnosis but splenomegaly of Gaucher seemed possible.

2. **Hydrocephalus of Poliomyelitis.**—According to the type of symptoms and the time they persist, Regan has found it advisable to divide the hydrocephalus of poliomyelitis into the following forms: 1. That of the onset (including the preparalytic and early paralytic stages). 2. That persistent after the first week of the disease and comprising three varieties: (*a*) a mild form commonly encountered in which there is only a slight increase in fluid and in which symptoms are practically absent; (*b*) a more severe form comprising various degrees, in which there are distinct signs of pressure; (*c*) a very severe type, more or less insidious in onset, indefinite in physical signs, and associated with evidences of progressive emaciation. Symptoms of these various types are described and suitable case reports are included to amply explain these descriptions. Regan is convinced that Macewen's sign provides a definite means by which these symptoms of hydrocephalus may be easily recognized and suitable treatment by rachiocentesis instituted, and therefore its employment in the routine physical examination of a patient with poliomyelitis is of the utmost importance.

3. **Vaccine in Prevention of Whooping Cough.**—At the Children's Home in Schenectady, one of the forty-six inmates developed whooping cough on or about Nov. 27, 1917, but because of failure of diagnosis was allowed to mingle for nearly a week with other children, after which he was isolated in a separate building. It was later learned that during this time he was known to have whooped and vomited. An epidemic of the disease was well under way in the city at the time, and several of the whooping cough patients had been attending the school to which the children of the home were sent daily. Seven weeks after the development of the case, there were nearly 400 records of pertussis at the city health department. Dec. 3, 1917, thirty-one who gave no record of having had whooping cough were inoculated, each with 50 million plain pertussis vaccine (stock). No reactions were noted, but one child complained of a sore arm. Up to the present time (Jan. 24, 1918) not a single case has developed in the home. The original case was given one dose of vaccine immediately after the diagnosis was made and ceased whooping at the end of one week. The vaccine was not repeated.

American Journal of Ophthalmology, Chicago

April, 1918, **1**, No. 4

5 Experience Through Halifax Disaster. F. Tooke, Montreal, Canada.—p. 223.
6 Canthoplasty for Trachomatous Conditions. J. S. Wyler, Cincinnati.—p. 231.
7 Neuroblastoma of Retina. C. C. Hugger and J. Forman, Columbus.—p. 234.
8 Stereoscopic and Perspective Vision. I. Franklin, Sheboygan, Wis.—p. 236.
9 Painful Accommodation. J. Green, Jr., St. Louis.—p. 240.
10 Toxic Action of Emetin on Eye. J. M. Robinson, Duluth, Minn.—p. 245.
11 Ocular Lesions Result of Oral and Pharyngeal Diseases. W. Zentmayer, Philadelphia.—p. 247.
12 Power of Eye to Sustain Clear and Comfortable Seeing with Different Illuminants. C. E. Ferree and G. Rand, Boston.—p. 252.
13 Vernal Conjunctivitis. E. Jackson, Denver.—p. 259.

Archives of Internal Medicine, Chicago

April, 1918, **21**, No. 4

14 *Superiority of Inoculations with Mixed Triple Vaccine (B. Typhosus, B. Paratyphosus A, and B. Paratyphosus B). W. C. Davison, Philadelphia.—p. 437.
15 *Study of Metabolism of Asthma. E. Zugsmith, Pittsburgh, and M. Kahn, New York.—p. 510.
16 *Conglomerate Tubercle and Combined Degeneration of Cord as Complications of Visceral Tuberculosis. P. Bassoe, Chicago.—p. 519.
17 *Pituitary Gland in Epileptics. J. F. Munson, Sonyea, N. Y.—p. 531.
18 *Intravenous Serum Treatment of Epidemic Cerebrospinal Meningitis. W. W. Herrick, Camp Jackson, S. C.—p. 541.

14. **Superiority of Inoculations with Mixed Triple Vaccine.**—Davison carried out a series of inoculations in a number of men and rabbits with vaccines prepared from cultures of one, two or all three of the bacilli (*B. typhosus, B. paratyphosus* A and *B. paratyphosus* B), varying the order of their introduction in the successive immunizations of different groups of rabbits. The details of all the experiments are given in full and the results are discussed. The following conclusions bearing on the practical problem of prophylactic inoculation in man against the typhoid-paratyphoid group of organisms stand out as possessing paramount importance: 1. When a mixed vaccine is used the immunity obtained for each of its constituent bacilli is at least as good as, and very often greater than, that obtained against any one of

these organisms when it is employed alone in the same dosage for a first immunization. 2. When single vaccines are employed in succession and the immunizations are carried out independently, the response is greatest to that vaccine which is introduced first. To the later immunizations with other micro-organisms the specific response is almost always less intense. It has associated with it, however, as a secondary result the production of a new rise of variable extent in the agglutinin titer of the serum of the bacillus of the first immunization.

15. **Metabolism of Asthma.**—Asthmatic individuals seem to suffer from a condition of tissue suboxidation. Whether this is due to the lack of oxygen induced by the functional failure of the pulmonary system, or whether the suboxidation is the result of the causative factor of the disease and is, perhaps, the etiologic factor in the production of the spasmodic seizure, cannot be at the present time decided. If it were possible to study the metabolism of a patient who did not suffer from asthma, but who had the etiologic factors present that may induce asthma, as, for example, an anaphylactic state that is present without the asthma, this point might be cleared up. The neutral sulphur fraction (consisting of the various unoxidized sulphur derivatives, like taurine, taurocarbamic acid, cystin, sulphocyanates, the oxyproteic and uroferric acid, the volatile sulphids, etc.) increase shows this lack of oxidation. This seems to agree with the findings of various observers who noticed a decrease of tissue oxidation in dyspneic animals. Zugsmith and Kahn find also that the creatinin output is low, thus indicating a lessened tissue oxidation, for, according to Folin and others, the creatinin output depends only on the endogenous katabolism of the body. While they did not notice that there was a lessened excretion of urea in urine, they found that the observation of Colosanti that there was a decrease in tissue breakdown during dyspnea, held true in human beings suffering from asthma. It is not true, however, that secretion of urine stops during the dyspneic attack, for in one case the secretion of urine seemed to be stimulated during the spasm, at least the patient voided urine frequently.

16. **Cord Degeneration and Visceral Tuberculosis.**—Bassoe reports two cases. Case 1.—Conglomerate tubercle in midthoracic region: Onset with epigastric paresthesia, then girdle pains, numbness and weakness of legs, finally picture of transverse lesion. Much pus in urine, but no pulmonary symptoms. Tuberculosis not recognized during life. Death seven months after onset. Necropsy: Pulmonary and genitourinary tuberculosis. Conglomerate intramedullary tubercle at level of seventh thoracic vertebra. Numerous tubercle bacilli in sections from cord. Case 2.—Man of 46 years with history of stroke causing right hemiplegia five years before death. Only partial weakness left behind. Later, pain and weakness of right side, followed by paraplegia and sphincter disturbance. Increased tendon reflexes and Babinski sign. No pulmonary symptoms and only slight physical signs. Necropsy: Chronic pulmonary and pleural tuberculosis. Atrophy of brain and cord. Old hemorrhagic softening in left hemisphere. Nodule in left Sylvian fissure. Extensive bilateral cord degeneration.

17. **Pituitary Gland in Epileptics.**—The sellas from a series of unselected epileptic subjects examined by Munson presented a wide variation in type. The average size seems a trifle smaller than the figures given for normals and the contained gland seems to weigh less. Roofing will be seen in the roentgenogram, but in reality the gland is well exposed and pressure seems a remote possibility. Bony changes are present but seem to be the anomalies which might well be present in a similar series of nonepileptic cases. There was no characteristic change to be seen in epileptic sellas.

18. **Intravenous Serum Treatment of Cerebrospinal Meningitis.**—A camp epidemic of 208 cases of cerebrospinal meningitis is reported by Herrick. He claims that the disease is in most, probably in all, instances a primary meningococcus sepsis with usual, but not necessarily universal, secondary meningitis. The diagnosis can be made in at least 50 per cent. of the cases in the premeningitic stage of sepsis. Treatment by large amounts of antimeningococcus serum intravenously, combined with active spinal drainage and intraspinal serum administration, has reduced the duration of the disease, the number and severity of complications and the mortality. The total mortality of the entire series of 208 cases is 26 per cent. In the 129 cases treated by intraspinal methods alone or with intravenous serum doses of 10 to 45 c.c., it is 31.7 per cent.; in 79 treated by larger amounts of serum intravenously and average or smaller amounts intrathecally, 16.4 per cent. The mild cases do well by either method of treatment. It is in the severe types that the intravenous methods give the most striking results. Another important effect of intravenous therapy is the apparent reduction in number of complications.

Boston Medical and Surgical Journal

April 18, 1918, **178**, No. 16

19 Physical Examination in Pulmonary Tuberculosis. J. H. Pratt, Boston.—p. 519.
20 Standardization of Hospitals. C. A. Drew, Worcester.—p. 527.
21 Surgical Sutures as Causes of Wound Infection. W. H. Watters, Boston.—p. 530.
22 Plea for Quick Bacteriologic Diagnosis of Diphtheria. E. A. Beckler, Boston.—p. 531.
23 Modern Treatment of Tuberculosis. H. F. Gammons, Carlsbad, Texas.—p. 532.

Canadian Medical Association Journal, Toronto

April, 1918, **8**, No. 4

24 Modern Conceptions of Certain Immunity Reactions and Their Practical Bearing. H. Oertel, Montreal.—p. 289.
25 Experience Through Halifax Disaster. F. T. Tooke, Montreal.—p. 308.
26 Analysis of Clinical Types of Puerperal Fever; Prognosis and Treatment. B. P. Watson and W. A. Scott, Toronto.—p. 321.
27 Essentials of Success in Prostatic Surgery. E. M. Watson, Buffalo.—p. 327.
28 Establishment of Federal Bureau of Health. J. B. Black, Windsor, N. S.—p. 333.
29 Two Cases of Sinus Thrombosis and Jugular Resection. R. S. Minnes, Ottawa.—p. 336.
30 Mercury Poisoning with Anaphylactic Phenomena and Fatal Issue Fifty-Two Days Later. A. R. Robertson and A. G. Fleming.—p. 342.
31 Case of Rheumatic Fever with Purpura, Edema of Glottis, etc. L. M. Lindsay, Montreal.—p. 352.

Cleveland Medical Journal

March, 1918, **17**, No. 3

32 Primary Anemia. C. F. Hoover, Cleveland.—p. 143.
33 Immediate Repair of Cervix after Childbirth. J. L. Bubis, Cleveland.—p. 149.
34 Wheat, Meat and Heat. T. Hubbard, Toledo.—p. 152.
35 Poliomyelitis in Cleveland in 1917. R. A. Bolt, Cleveland.—p. 156.
36 Technic of Some of Less Common Methods of Examination of Blood and Urine. A. B. Denison, Cleveland.—p. 166.

Georgia Medical Association Journal, Augusta

April, 1918, **7**, No. 12

37 Indirect, Direct and Suspension Laryngoscopy. C. Stockard, Atlanta.—p. 255.
38 Chronic Appendicitis in Young Children. B. Moore, Atlanta.—p. 258.
39 Syphilis of Stomach; Report of Cases. L. C. Fischer, Atlanta.—p. 261.
40 County Hospitals. W. A. Chapman, Cedartown.—p. 264.

Indiana State Medical Association Journal, Fort Wayne

April, 1918, **11**, No. 4

41 Application and Interpretation of Newer Ear Tests. J. D. Heitger, Bedford.—p. 135.
42 *Tonsillectomy and Adenectomy. J. W. Iddings, Lowell.—p. 139.
43 Chronic Constipation. W. H. Foreman, Indianapolis.—p. 147.

42. Abstracted in THE JOURNAL, Oct. 27, 1917, p. 1469.

Iowa State Medical Society Journal, Des Moines

April, 1918, **8**, No. 4

44 Operation of Sewage Treatment Plants in Iowa. J. H. Dunlap, Iowa City.—p. 121.
45 Acidosis in Children. F. Moore, Des Moines.—p. 125.
46 Acidosis in Surgery. E. A. Graham, Mason City.—p. 130.
47 Acidosis and Its Relation to Upper Respiratory Conditions. F. A. Stevens, Sioux City.—p. 136.
48 Manic Depressive Insanity. G. H. Hill, Des Moines.—p. 138.
49 Heart Disease in Children. T. N. Walsh, Hawkeye.—p. 143.

Journal of Bacteriology, Baltimore

March, 1918, **3**, No. 2

50 Science of Bacteriology and Its Relation to Other Sciences. L. F. Rettger, New Haven, Conn.—p. 103.
51 Methods of Pure Culture Study. H. J. Conn, H. A. Harding, I. J. Kligler, W. D. Frost, M. J. Prucha and K. N. Atkins. —p. 115.
52 *Enzymes of Tubercle Bacillus. H. J. Corper and H. C. Sweany, Chicago.—p. 129.
53 Some Characters which Differentiate Lactic Acid Streptococcus from Streptococci of Pyogenes Type Occurring in Milk. J. M. Sherman and W. G. Albus, Philadelphia.—p. 153.
54 Studies in Nomenclature and Classification of Bacteria. R. E. Buchanan, Ames, Iowa.—p. 175.
55 Direct or Breed Method for Counting Bacteria in Tomato Catsup, Pulp or Paste. C. Vincent, Baltimore.—p. 183.
56 Blue Printing Directly from Agar Plates. J. Broadhurst, New York.—p. 187.
57 Comparison of Loeffler's Coagulated Blood Serum and Blood Serum with Addition of Sterile Ox Gall. H. R. Odell, Albany, N. Y. —p. 189.

52. **Enzymes of Tubercle Bacillus.**—As a result of experiments Corper and Sweany state that evidence of the presence of a connective tissue, or elastic tissue, disintegrating enzyme in the tubercle bacillus was not obtained, at least by the methods used for this purpose. Tubercle bacilli of both the human and bovine varieties possess autolytic enzymes, as indicated by the noncoagulable nitrogen and amino-acid, a nitrogen liberated at incubator temperature after the bacilli have been killed by toluene and chloroform. The bacilli themselves, or autolysates therefrom, also possess a trypsin-like enzyme capable of splitting proteins in alkaline solution, an erepsin-like enzyme capable of decomposing peptone in acid solution, a weak pepsin-like enzyme capable of splitting proteins in acid solution, a nuclease capable of splitting nucleic acid and a urease capable of decomposing urea. The tubercle bacilli, or autolysates therefrom, do not possess enzymes capable of hydrolyzing starch or inverting sucrose, demonstrable by the delicate Lewis and Benedict picramic acid method. Autolysates from tubercle bacilli do not possess enzymes capable of digesting elastic tissue prepared from lamb lung, or connective tissue prepared from tubercles, at least.

Medical Record, New York

April 13, 1918, **93**, No. 15

58 *Relation of Dress to Health, with Special Reference to Army Uniforms. W. B. James, New York.—p. 617.
59 Teratologic Collection of Army Medical Museum. R. W. Shufeldt, Washington, D. C.—p. 620.
60 Surgical Histology and Anatomy of Breast. P. Syms, New York. —p. 627.
61 Is Diagnosis of Precancerous Stage Possible in Uterine Diseases? H. Crutcher, Tularosa, N. M.—p. 632.
62 Mouth Surgery, with Special Reference to Cysts of Jaws. T. Blum, New York.—p. 634.
63 Abrams' Method of Treatment of Aneurysm. R. Kodama, Tokio, Japan.—p. 635.

April 20, 1918, **93**, No. 16

64 War Food Dieting and Our Patients. W. G. Thompson, New York.—p. 663.
65 Some Manifestations of Parent Complex. A. Stern, New York. —p. 664.
66 Fracture Dislocation of Sacrum; Involving Third, Fourth and Fifth Sacral Roots. J. Byrne and A. H. Harrigan, New York. —p. 668.
67 Surgical Anomalies of Ileocolon. H. Barber, New York.—p. 673.
68 Conservation of Baby Life in Tenement. J. Sobel, New York. —p. 676.
69 Explanation of Austin Flint Murmur; Also of Presystolic Murmur of Mitral Stenosis. O. V. Huffman, Brooklyn.—p. 681.

58. **Health and the Army Uniform.**—Nowhere, says James, is the irrational in dress more striking than in military life. In private life, excepting for fashion and modern police requirements, every man is at liberty to dress as he wishes. In the army his dress is determined for him without any choice on his part. Military tradition and a desire to look different from other armies seem to have been the determining factors. The chief points in the army uniform that seem not to be in accord with the principles before demonstrated and which prevent free contact between the skin and the air, which is necessary for health, resistance to disease, and for efficiency, are the closefitting woolen and often padded coat which must always be kept closely buttoned; the high close-fitting collar; the woolen puttees resembling the bands in which the legs of infants were swaddled in a former and more barbaric age; and the regulation which necessitates the constant wearing of the hat or cap when out of doors. The modern soldier is almost hermetically sealed from the soles of his feet to his chin. From the point of view of modern science the clothing of the navy is far more rational than is that of the army. The open front blouse and the bell-bottom trousers flapping in the wind secure at least a moderate exposure of some part of the body.

New York Medical Journal

April 13, 1918, **107**, No. 15

70 Hemorrhage of Nonpregnant Uterus. F. C. Hammond, Philadelphia.—p. 673.
71 Infection and Resistance. J. W. Smith, Jr., New York.—p. 675.
72 Ether Oil Colonic Anesthesia. W. Lathrop, Hazelton, Pa.—p. 679.
73 Paraffin in Ear and Nose. A. Kahn, New York.—p. 681.
74 Surgical Prognosis in Gallbladder Disease. E. MacD. Stanton, Schenectady.—p. 682.
75 Tonsil Problem in Adults and Children. J. Friedman, New York. —p. 686.
76 Sex in Life. J. H. Toomey, New York.—p. 688. To be continued.
77 Principles of Treatment of Gunshot Wounds at Casualty Clearing Stations. H. M. W. Gray, Aberdeen, Scotland.—p. 696.

April 20, 1918, **107**, No. 16

78 Malpositions and Their Treatment. J. W. Markoe, New York. —p. 721.
79 Medical Supervision of Trinitrotoluol Workers. W. G. Hudson, New York.—p. 723.
80 Intramuscular Injection of Foreign Protein, Crotalin, in Three Hundred Cases of Epilepsy. R. H. Spangler, Philadelphia.—p. 727.
81 Syphilis in Relation to Mental Disease. W. C. Sandy, Middletown, Conn.—p. 734.
82 Intra-Arterial (Vertebral) Administration of Tetanus Antitoxin. R. B. Pratt, Philadelphia.—p. 737.
83 Sex in Life. J. H. Toomey, New York.—p. 739.
84 Pupillary Reaction in Chronic Alcoholism and Alcoholic Psychoses. S. R. Leahy, New York.—p. 743.
85 Hoarseness. J. J. Levbarg, New York.—p. 744.
86 Principles of Treatment of Gunshot Wounds at Casualty Clearing Stations. H. M. W. Gray, Aberdeen, Scotland.—p. 745.
87 Surgery in British Base Hospital in France. A. Greenwood. —p. 748.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

March, 1918, **22**, No. 10

1 Technic for Lateral View of Upper End of Femur. R. W. A. Salmond.—p. 297.
2 Some Modern Developments in Roentgenology. L. E. Ellis.—p. 301.
3 Convenient Method of Heating Spiral of Coolidge Tube. A. C. Jordan.—p. 307.
4 Study of Dosage in Radium Therapy. J. C. Mottram and S. Russ. —p. 309.

Glasgow Medical Journal

December, 1917, **88**, No. 6

5 Etiology of Cancer. H. Morton.—p. 321.
6 Intratracheal Anesthesia. H. P. Fairlie.—p. 334.

Lancet, London

March 30, **1**, No. 4935

7 *Nonunion of War Fractures of Mandible. P. P. Cole.—p. 459.
8 *Bone Grafting in Gunshot Injuries of Mandible. H. Platt, G. G. Campion and B. J. Rodway.—p. 461.
9 Case of Unilateral Hypertrophy of Mandible. W. Edmond.—p. 463.
10 Electrocardiographic Depression Produced by Digitalis. I. Harris. —p. 464.
11 *Trophic Disturbances in Gunshot Injuries of Peripheral Nerves. J. S. B. Stopford.—p. 465.
12 Roentgen Ray Appearances of Trichiniasis. C. Gouldesbrough.—p. 468.

April 6, 1918, **1**, No. 4936

13 *Cardiac Pathology. Auricular Flutter. F. W. Price.—p. 491.
14 Army Nephritis. C. F. Coombs.—p. 495.
15 *Prophylactic Triple Inoculation against Typhoid and Paratyphoid. G. Dreyer, A. D. Gardner, A. G. Gibson and E. W. A. Walker. —p. 498.
16 Persistent Carriers of Entameba Histolytica. S. Shepheard and D. G. Lillie.—p. 501.

7. **Nonunion of War Fractures of Mandible.**—Among 270 cases of jaw fractures which have come under the care of Cole and his associate Bubb immediately or soon after the infliction of their injury, there were thirty ununited fractures, an inclusive nonunion percentage of approximately eleven.

Of these thirty cases, union was in twelve absolutely hopeless, judged by no matter how exacting a standard. The resulting figure is approximately 7 per cent. In the treatment of many of these cases use has been made of a pedicled graft method which Cole regards as being a novel procedure. He used that portion of the jaw lying in front of the masseter attached to its lower margin the deep cervical fascia, to its outer surface the platysma, and to its inner surface near the symphysis the anterior belly of the digastric. On clinical and anatomic grounds this portion can be detached and utilized as a pedicled graft. The feasibility of the procedure was clearly demonstrated at operation. The procedure adopted is as follows: The skin incision is made extending well into the neck reaching a lower level in front than behind. A flap consisting of skin only is raised to the requisite level. The posterior fragment is thoroughly exposed. The extremity only of the anterior fragment is exposed, so that the extent of the gap may be gaged. An incision is then made through the soft parts clothing the outer aspect of the anterior fragments at a level immediately below the buccal sulcus. The basal margin of this portion of the jaw is then sawed off. The periosteum on the inner aspect of the fragment is incised. Lateral incisions through platysma and deep fascia are made to define the pedicle, which is then dissected from the underlying structures.

The graft is thus freed to an extent sufficient to allow easy adaptation in its new position. The posterior fragment it now freshened to provide as broad a surface of contact as possible. Anterior and posterior fragments are now drilled for the passage of a fine silver wire. The wires are passed through the pedicle, surround the graft, and, when tightened and twisted, ensure snug contact between graft and freshened fragments. The soft parts are brought together with a few catgut sutures and the skin is sewed up. A drainage tube is inserted and retained for twenty-four hours. The vast majority of ununited fractures occur on the lateral aspect of the mandible and exhibit a gap rarely exceeding 3 cm. in length. This operation, then, enjoys a wide range of applicability. The results obtained by this method are rapid and certain. Cole says that to such an extent is this so that in cases with nonunion, amenable to treatment by means of a pedicled graft, success can practically be guaranteed.

8. **Bone Grafting in Injuries of Mandible.**—The authors report nine cases of jaw injury in which tibial bone grafts were implanted successfully.

11. **Guashot Injuries of Peripheral Nerves.**—Stopford points out that there is strong reason to conclude that irritative nerve lesions can produce changes in the walls of the arteries supplied by the affected nerves. These changes seriously reduce the caliber of the vessel and must inevitably diminish the blood supply to the muscles, bones, joints and skin. From the clinical and pathologic evidence brought forward in this paper it seems probable that the so-called trophic disturbances are the result of vascular changes produced by an irritative nerve lesion. The contention held by Todd that vascular changes precede trophic lesions is strongly supported by Stopford's clinical observation. The appearance of gangrene and other features in the late stages of some of his patients who had received uncomplicated gunshot injuries of peripheral nerves strongly suggested arterial obstruction, although there was no indication that any main blood vessel had been primarily or secondarily implicated by the injury or healing of the wound. The constant fibrous contracture of muscles in these cases showed a more serious condition than was to be expected from a simple nerve injury, and the histologic examination points to this being due largely to diminished blood supply in consequence of the endarteritis. It is important to emphasize the fact that this contracture is only found to occur in the muscles whose nerve supply has been affected.

13. **Cardiac Pathology.**—The diagnosis of the condition, Price says, rests on the detection of the extremely rapid contractions of the auricle, and this is not infrequently impossible without the employment of the polygraph or electrocardiograph; indeed, in some cases a correct diagnosis cannot be made with certainty, even though the polygraph be employed, an electrocardiographic examination being necessary. Besides it is necessary to distinguish the electrocardiograms of auricular flutter from those of auricular fibrillation. In the case of the latter, however, the R deflections occur at irregularly irregular intervals; the amplitude of the R deflections varies from cycle to cycle; and there is often no relation between the length of a pause and the amplitude of the deflection R which follows it, that is, a short pause may be followed by an R deflection of large amplitude and a long pause by one of small amplitude. In the case of auricular flutter it will be found that these features are not present, even though the ventricular rhythm is markedly irregular. Further, the deflections due to auricular systole in cases of auricular flutter may be distinguished from the oscillations that are found in auricular fibrillation. In the case of the former they are less frequent, ranging between 180 and 380 per minute, rhythmic, and of constant form in each lead; whereas in the latter they are more numerous, irregular in rhythm, inconstant in form in each lead, and smaller in size.

Whenever an individual is conscious of a marked increase in the cardiac rate or complains of attacks of palpitation, occurring suddenly and without apparent cause, or suffers from dyspnea on exertion and other indications of cardiac failure coming on rapidly, the possibility of auricular flutter should be considered, especially if the rhythm of the pulse be regular. Auricular flutter should be diagnosed from tachycardia associated with a normal rhythm. When the attacks are transient absolute rest is advisable and the treatment is that of paroxysmal tachycardia. When they are of longer duration, or the condition has become permanently established one of the digitalis series of drugs should be administered in large doses. One may employ the tincture of digitalis, commencing with a dram, or in urgent cases with even 1½ or 2 drams, per diem. These doses should be continued until the full physiologic reaction is obtained. After this one or two plans may be adopted: (1) The dosage may be lessened, and afterward the administration of the smallest dose necessary to control the ventricular rate continued in the hope that the flutter may cease; or (2) large doses may be continued, in the hope of inducing auricular fibrillation, after which the administration of the drug is discontinued for some days in anticipation of a return to the normal rhythm. Price says that the first plan is generally to be preferred.

15. **Inoculation Against Typhoid.**—A brief partial report is made by the authors in order to record their observations made on animals and man in relation to the use of triple vaccine. They were from the first of the opinion that the doses recommended and employed by Castellani were too small, and of this they soon became convinced. In their own investigations they have used vaccine made up to the following strengths per cubic centimeter: (1) 1,000 million *B. typhosus;* 500 million *B. paratyphosus* A; 500 million *B. paratyphosus* B; (2) 1,000 million *B. typhosus;* 750 million *B. paratyphosus* A; 750 million *B. paratyphosus* B; (3) 1,000 million *B. typhosus;* 1,000 million *B. paratyphosus* A; 1,000 million *B. paratyphosus* B. As regards the degree of local and general reaction produced by the inoculations the authors found that the vaccines do not produce appreciably greater disability than the ordinary typhoid vaccine. Comparing earlier results, following the use of the weakest vaccine, with those obtained with the two stronger vaccines the authors have no doubt that both the degree of immunity developed and its duration were distinctly greater in the case of paratyphoid A and B where the stronger vaccines were used. This was particularly evident in the case of paratyphoid A.

Curves of agglutinin formation worked out on man have enabled Dreyer and his associates to reach the following general conclusions: (*a*) as the result of a single first inoculation with triple vaccine. 1. Agglutinins begin to make their appearance in the serum about the seventh day. 2. Thereafter they undergo a rapid increase in amount, reaching their maximum somewhere between the sixteenth and the twenty-fourth day, usually about the eighteenth to

the twentieth. 3. After the maximum is passed a regular fall begins similar to that familiar from animal experiment. 4. The actual height of the titer reached for each bacillus varies very greatly with the individual subject of inoculation, as also does the relative height of the titers obtained respectively for T., A, and B. Nevertheless, the individual differences in reaction remain very striking. These facts suggest an explanation of how it happens that one individual freely and continuously exposed to typhoid infection may not become infected (while others similarly situated may do so), but will, nevertheless, readily acquire infection if exposed to paratyphoid A or paratyphoid B as the case may be, and similarly mutatis mutandis. (*b*) What occurs when the usual routine of giving two inoculations at ten days' interval is followed.

At the moment when the second inoculation is given the rise in agglutinin titer following the first inoculation has usually just begun to become rapid. There occurs immediately a marked change in the rate of agglutinin production. This change is normally characterized by an actual fall in the curve of a few days' duration, after which the rapid rise again sets in and reaches its maximum between the sixteenth and twenty-fourth day, most frequently the eighteenth to twentieth day. The regular fall, then, follows as in the case of a single inoculation. It follows that the use of two inoculations, at least, is an essential feature in the prophylaxis of enteric fevers, since it secures a more persistent relatively high immunity. A most important factor affecting duration of immunity is the time interval allowed between the first and second inoculation. A more lasting immunity is obtained by administering the second dose of vaccine at a time when the effect of the first has reached (approximately) its maximum. The authors are of opinion, therefore, that it would prove advantagous to lengthen the interval between the first and second dose of vaccine from ten days to eighteen or twenty days (about three weeks) in making prophylactic inoculations against typhoid and paratyphoid.

Sei-I-Kwai Medical Journal, Tokyo

March, 1918, **37**, No. 3

17 Myositis Purulenta Acuta Caused by Bacillus Typhosus. M. Terada.—p. 9.

Bulletin de l'Académie de Médecine, Paris

March 12, 1918, **79**, No. 10

18 *Pustules on Munition Workers. G. Thibierge.—p. 208.
19 *Nervous Form of Slow Endocarditis. H. Claude.—p. 211.
20 The Laws of Healing of Skin Wounds. A. Lumière.—p. 213.
21 *Treatment of Stenosis of the Esophagus. Sencert.—p. 215.

18. **The Oil Pustules of Munition Workers.**—Summarized in the Paris Letter, page 1247.

19. **Nervous Form of Slow Endocarditis.**—Claude recalls that malignant endocarditis with a protracted course was described by Jaccoud in 1882. Osler has called attention recently to the frequency of infectious nodules and purpura in its course, and he has also described a meningitic form which belongs, however, more to the acute type of endocarditis. Claude here reports a case, in a young man, of typical slow endocarditis remarkable in that the symptoms were predominantly nervous: a two months' chorea, meningism, hemiplegia and alternate facial paralysis. Necropsy six months after the first symptoms showed foci of infectious arteritis with ectasia. Fine chains of streptococci were found in sections of the mitral valve.

21. **Treatment of Grave Stenosis of the Esophagus.**—Sencert reports two new cases which bring to fourteen the number of his cases of practically impassable cicatricial stenosis of the esophagus corrected by retrograde catheterization. An opening is made into the stomach and then, ten or fifteen days later, he works a fine catheter up into the esophagus from below, under direct visual control through the gastrostomy. This allows a thread to be drawn through the esophagus, and a fine rubber tube, tied to this thread, can be drawn through. A thread tied to the tube is drawn through with it and is left till next day when the progressive dilation is continued.

Paris Médical

March 9, 1918, **8**, No. 10

22 *Amputation of the Foot. A. Trèves and M. Paramelle.—p. 194.
23 *Chronic Dental Infection. A. Baude.—p. 199.
24 *Internal and External Temperature. A. Satre.—p. 204.

March 16, 1918, **8**, No. 11

25 Treatment of Salivary Fistulas. L. Dieulafé.—p. 211.
26 Amputation to Precede Disarticulation. P. Bertein.—p. 216.
27 Feet Frozen in Repatriating Trains. F. Baup.—p. 220.

22. **Amputation of the Foot.**—From their comprehensive study of prostheses applied for partial or total amputation of a foot, Trèves and Paramelle declare that the functional use of the leg is more nearly perfect when the amputation removed the whole of the foot. Amputation in the lower third of the leg gives the best results, farmers, mechanics, and others being able to resume their occupation in practically exactly the same conditions as before their injury, after they once get accustomed to their artificial leg. The leg is stouter and is not so liable to get out of order as the more complicated artificial foot. A severely maimed foot is more of a handicap than an artificial leg. In the present state of things, the best advice to give for severe mutilation of the foot is to have it amputated at the ankle. (The concluding portion of this article was suppressed by the censor.)

23. **Dental Infections.**—Baude insists that with enlarged glands in the neck, the primary lesion should be sought in the teeth, before incriminating the tubercle bacilli. If there is not already softening, treatment of the teeth generally brings the return to normal of conditions in the glands. In a large proportion of cases the tubercle bacilli locate only secondarily in the inflamed glands. Ordinary inflammation makes the bed for tuberculosis, in both children and adults. He has encountered cases of chronic septicemia from oral sepsis, and urges that the physician should insist on the teeth being put in order as an indispensable element of whatever treatment he is instituting. If the patient cannot afford the time or expense for careful dentistry, the tooth should be pulled.

24. **Difference Between Internal and External Temperature.**—Satre found in all but fifty-one of 500 persons examined that the temperature in the rectum was from 0.1 to 0.5 centigrade degree higher than the external temperature. The average was 0.3, and this may be regarded as the normal, the standard difference between the two temperatures. When the difference is less than this, or more, abnormal conditions prevail. Judging from his observation and clinical experience, the prognosis is fatal when the difference amounts to 1.5 or 2 degrees C. If the figure is 0.8 or 1 early in the disease and keeps at this figure, the outlook is grave but there is still a chance of recovery. Much difference, in the course of an infectious disease, often indicates acute insufficiency of the myocardium. When he finds that the difference is 1 degree, he begins to give stimulants and stops all cooling baths and packs, to refrain from augmenting further this heart weakness. When the difference keeps within the normal range in the course of acute infectious diseases, the outlook may be regarded as good, notwithstanding the delirium, rapid pulse and occasional arrhythmia. An abnormal difference in the course of convalescence from diphtheria, warns of acute insufficiency of the myocardium. In chronic heart disease, the difference may amount to 1 or 1.2 degrees; as it goes higher than this, the prognosis grows graver. A difference of 1 degree differentiates cardiac asthma from other forms of asthma, and organic tachycardia from the nervous form. A difference within normal excludes appendicitis and peritonitis, suggested otherwise by the symptoms. With all internal or external purulent affections, there is a difference of about 1 degree.

Presse Médicale, Paris

March 14, 1918, **26**, No. 15

28 *Treatment of Deformity of Hand or Foot from Contracture. J. Boisseau and M. d'Oelsnitz.—p. 133.
29 *The Rhythm of Retention of Salt. P. Vallery-Radot.—p. 135.
30 *Spinal Anesthesia by Lumbosacral Cocainization. P. Delmas.—p. 137.

28. **War Contracture of Hand or Foot.**—Illustrations are given of hand or foot in extreme contracture cured by a single sitting. The curability is independent of the duration, of the degree of secondary disturbances, and of the clinical form of contracture. Boisseau and d'Oelsnitz report all cured but 9 in 143 cases of contracted hand, *mains figées*, and all cured but 6 in 62 cases of war clubfoot. The mental condition is that of hysteria, and this is responsible for the motor disturbance. The preparation of the patient by a wholesome environment with his mates in the ward, the contagion of example, and the direct or indirect progressive psychotherapy proper of the motor disturbance, are reenforced by weak faradic electricity. In 81 hand cases and 44 foot cases the contracture was overcome at the first trial. They regard it as important from a prophylactic point of view to have these men return when cured to their mates in camp. The outlook for them then is on the same plane as for any men with the hysteria temperament.

29. **Rhythmic Retention of Salt.**—Radot emphasizes that from 10 to 15 per cent. of the chlorids ingested is retained in physiologic conditions. If after a salt-poor period a normal person takes 10 gm. of additional sodium chlorid, part of this is retained for two or three days. The rest is thrown off by steps until the salt balance is reached, and then practically all the salt ingested is eliminated. In chronic nephritis there is more or less accentuation of the normal retention, and of the elimination by steps, *échelons progressifs*. The elimination of salt may increase from less than 2 gm. to over 10 gm. in the third or fourth day in the normal; or not until the seventh day; or it never reaches 5 gm.; or even 1 gm.—these are the three different types of retention of chlorids with diseased kidneys. This test ingestion daily of 11.5 gm. of sodium chlorid, after the patient has been getting only 1.5 gm. for some time, is the only means for determining with precision the permeability of the kidney for chlorids. But it is indispensable to watch the elimination for ten or twelve days in dubious cases, as the elimination may be only retarded. To attempt to draw conclusions in two or three days after giving the superposed 10 gm. is misleading.

30. **Lumbosacral Cocain General Anesthesia.**—Delmas states that in his 300 cases and in Le Filliatre's 3,000, there have been no mishaps with this cocain technic, which he here describes in detail. Two antagonistic injections are given first; one of 1 mg. scopolamin and 1 cg. morphin, the other of 3 mg. of strychnin to counterbalance any toxic action from the other. The eyes are bandaged to ward off dizziness. After waiting half an hour, two more antagonistic injections are made, one, subcutaneous, 5 cg. of spartein. The other is the intraspinal injection of from 2 to 6 cg. cocain, dissolved in the spinal fluid. The analgesia begins in the feet and gradually extends up to the head, going off in inverse order. Delmas reiterates that this method permits anesthetization of any segment of the body desired, including the head, without any disagreeable by-effects at the time or later.

Progrès Médical, Paris

March 2, 1918, **33**, No. 9

31 Complications of War Wounds of Spinal Cord. G. Roussy.—p. 73.
32 *Symptoms after Severing of Dorsal Spinal Cord. Lhermitte.—p. 76.
33 War Wounds of Cervical Sympathetic. C. Pfeiffer.—p. 80.

March 16, 1918, **33**, No. 11

34 *Somnambulism in Hysteria and Epilepsy. Bernheim.—p. 91.
35 *Displacement of Liver from Interposed Intestine. L. Moreau.—p. 92.
36 Posterior Mastoiditis. R. Moreaux.—p. 95.

32. **Symptoms from Complete Section of Spinal Cord.**—Lhermitte warns that the symptoms observed at first may give way to others later. This change is responsible for the conflicting testimony that has been published on this subject. All discrepancies are explained by the varying length of time since the injury to the cord. He analyzes the different symptoms, especially the tardy exaggeration of the reflexes and the automatic defensive movements, spasmodic contraction of certain muscles. Cases of this kind seem to demonstrate that certain centers must exist in the spinal cord which preside over skin, tendon and bone reflexes.

34. **Somnambulism in Hysteria and Epilepsy.**—The practical conclusion of Bernheim's study of this subject is that the somnambulism is merely a secondary manifestation, superposed on the hysteria or the epilepsy. Hence the somnambulism is amenable to psychotherapy.

35. **Ptosis of Liver from Interposed Loop of Intestine.**—In one of Moreau's two cases the colon had become interposed between the diaphragm and the liver; in the other case, loops of small intestine. In the first case a cancer of the stomach was evidently responsible for the displacement, by traction from adhesions. In the other case there was cystic disease of the intestines.

Revue de Médecine, Paris

July-August, 1916, **35**, No. 7-8, Published November, 1917

37 The Menace of Declining Vitality in French Nation. L. Landouzy.—p. 407.
38 *Nervous Shock. H. Roger.—p. 422.
39 War Microbian Skin Diseases. H. Gougerot.—p. 461. Continuation.
40 *Diagnosis of Pregnancy from the Urine. J. Koopman.—p. 493.
41 Influence of Alcohol on Sugar Content of Dogs' Blood. R. Lépine.—p. 506.
42 *Variations in Pressure of Cerebrospinal Fluid. E. Cottin and C. Saloz.—p. 511.
43 Sugar Content of Blood after Inhalation of Chloroform. R. Lépine.—p. 528.

38. **Nervous Shock.**—Roger analyzes nervous shock as a set of inhibiting phenomena following on some violent excitation, and entailing secondary paralysis of the centers primarily excited or inhibited. The dynamic disturbance is felt in all or nearly all the cells of the entire body. It arrests or modifies their functioning, thus inducing a series of new morbid manifestations: reduction of the blood pressure; attenuation of the cellular metabolism; lowering of the temperature; disturbance in the internal and the external secretions; acidification of the blood, and reduction of the proportion of carbon dioxid. Thus, as the process develops, it keeps growing more complex. Physical and chemical manifestations become superposed on the primary dynamic disturbances. Treatment, therefore, must be addressed to all three. Shock retards the action of drugs. He has found that frogs in a state of shock from a blow on the head or an electric shock did not respond to the effect of a poison until after a period eight or ten times longer than under normal conditions, even when strychnin, for example, was injected by the vein. Roger reviews the various measures in vogue for combating shock, including pneumatic pressure to drive the blood from the periphery inward after severe hemorrhage; anesthesia of the region, and inhalation of carbon dioxid with oxygen.

40. **Diagnosis of Pregnancy from the Urine.**—Koopman's trials of various technics for this purpose proved disappointing, with the exception of the miostagmin reaction. For this he uses a stalagmometer, an increase in the number of drops from the capillary tube or the weight of the fluid thus dropped, per second, is the miostagmin reaction. In thirty pregnant women he found that the urine always showed two or three more drops than the controls, up to six drops. The only misleading findings he obtained were in a case of cancer of the esophagus and one of uterine fibroma. The reagent used was an extract of chorionic villi, or Izar's reagent (1 c.c. each of linolic and ricinolic acid), or Abderhalden's placenta antigen.

42. **Pressure in the Cerebrospinal Fluid.**—Cottin and Saloz found wide variations in the pressure in healthy persons according as they were seated, standing or reclining. In eighty pathologic cases the variations were still more marked, but no special laws for this could be detected. In normal persons the pressure was from 20 to 23 cm. water, reclining, and from 40 to 42 cm., seated. Hence in recording the pressure the position at the time should be specified.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 9, 1918, **48**, No. 10

44 *Paralysis Left by Anterior Poliomyelitis. H. Hoessly.—p. 305.
45 *Internal Topography of Peripheral Nerves. H. Hoessly.—p. 306.
46 *The Function of the Patella. H. Hoessly.—p. 311.
47 *Lactation and Mammary Cancer. B. von Steiger.—p. 312.
48 "Iron Placenta" Test for Pregnancy. Kottmann.—p. 318. See Abstr. 51, p. 658.

44. **Sequels of Poliomyelitis.**—Hoessly thinks that it is more than a casual coincidence that, at the Zurich orthopedic institute, in fifty-two patients under treatment for bilateral paralysis from poliomyelitis, one foot was in pronation, and the other in supination. The paralysis always involved the antagonists in the two feet.

45. **Internal Topography of Peripheral Nerves.**—Hoessly has found an instructive means for study of the inner topography of nerves to be research on the peripheral nerves in cases of old central paralysis. In four cases of arthrodesis of the knee requiring operative correction, in patients who had long been paralyzed as result of poliomyelitis nearly twenty years before, a segment of the external popliteal nerve was resected and examined to determine the topography of the fiber tracts. He assumes that the motor fibers must have been all destroyed during the long interval. On this assumption, the findings indicated that the motor and sensory fibers do not run in cables but blend in their course, weaving in and out. This "secondary degeneration method" for determining the internal topography of a nerve may give interesting results when applied to trunk nerves.

46. **The Function of the Patella.**—Hoessly presents arguments to show that one of the main functions of the patella is to serve as a leverage point.

47. **Mammary Cancer and Lactation.**—Von Steiger's statistics from the public hospital at Bern confirm the general assumption that the normal physiologic activity of the mammary glands does not predispose to cancer. In 108 women with mammary cancer, less than 25 per cent. had had normal lactation; more than 50 per cent. had never borne children, and the others had nursed only defectively. The average age of those who had never borne children was 55, while the average age of the others was a little over 52.

Gazzetta degli Ospedali e delle Cliniche, Milan

Feb. 17, 1918, **39**, No. 14

49 *War Wounds of the Skull. E. Riccioli.—p. 135.

Feb. 24, 1918, **39**, No. 16

50 *The 1917 Epidemic of Malaria. G. Cremonese.—p. 153.

49. **Skull Wounds.**—Riccioli analyzes his experience with thirty-three operative cases of war wounds of the skull. The mortality was 38.7 per cent., and in 16.6 per cent. of the fatal cases the dura mater was apparently intact. The operation followed the wound within a few hours.

50. **Malaria in 1917.**—Cremonese remarks that malaria exacted high tribute all over Europe last year, and especially in Italy. Until 1917 malaria in Italy had been gradually assuming a milder form. The ability to procure quinin at cost at every postoffice made it possible for everyone to take it freely, and people did this, even without calling in a physician, aborting the disease as it developed, or materially attenuating it. The only plausible explanation for the virulence of the malaria during 1917 is that new and virulent strains of the malaria parasites had been imported. The quotidian type was especially prevalent. The treatment found successful was a double injection of the quinin (1 gm. bichlorid : two vials), and 2 gm. by the mouth in ten tablets during the day. Then for two or three days, 0.5 gm. by injection and five or six tablets, or ten tablets alone. This was kept up for two or three days; then for about three days, eight tablets; then six for a week (1.20 gm.), and finally four daily for a month (0.80 gm.). In children over 5 he began also with the 1 gm. by injection, but under this age he gave the quinin only by the mouth.

Policlinico, Rome

Feb. 24, 1918, **25**, No. 8

51 *Ascending Cultures in Bacteriology. C. Gorini.—p. 173.
52 *Bullet Wound of Heart. L. Vaccari.—p. 177.
53 *Abortive Treatment of Gonorrhea. E. Vecchia.—p. 179.

March 3, 1918, **25**, No. 9

54 Total Peripheral Facial Diplegia. A. Rossi.—p. 197.
55 Deformity of the Sternum. B. Masci.—p. 200.
56 Dental Caries and Social Medicine. B. De Vecchis.—p. 202.
57 Treatment of Fracture of the Humerus. L. Picravanti.—p. 204.

March, 1918, **25**, Surgical Section, No. 3

58 Hard Edema of Hand. G. Segre.—p. 65.
59 Mycosis from Oospora d'Agatae n. sp. G. D'Agata.—p. 80.
60 Experimental Lesions of the Pituitary. A. Chiasserini.—p. 87. Continuation.

51. **Ascending Cultures of Bacteria.**—Gorini called attention in 1903 to the faculty possessed by certain bacteria of climbing to the surface of the tube of agar when only the condensation fluid at the bottom of the tube was inoculated. Bacteria can be classed by this phenomenon as climbing and nonclimbing, and this supplies another element for differentiating them. It is the most convenient and the most certain method for distinguishing the proteus, and obtaining it in pure cultures. The bacteria of the typhoid group and certain races of colon bacteria are of the ascending type.

52. **Bullet Wound of Heart.**—The small bullet was found close to the sternum of the boy of 8 about an hour after the accident. The grave symptoms indicated hemorrhage in the pericardium but not a trace of perforation of the pericardium could be found. Nevertheless the pericardium was opened with a Y incision and the apex of the heart brought out. A jet of blood suddenly spurted nearly 70 cm. high, but was arrested with the left thumb and finger. With the right hand an X suture was taken in the myocardium and the heart was replaced. The interest of the case lies in the injury of the heart with no signs of perforation of the pericardium. The heart seems perfectly normal now.

53. **Abortive Treatment of Gonorrhea.**—The Italian authorities have recently decreed that soldiers with venereal disease are to be treated in their own units. Especially with acute gonorrhea, this imposes a heavy task on the regimental medical officers. Acute gonorrhea is not infrequent, in spite of all the precautions taken. Vecchia reports the subsidence of all symptoms in four days in eight of eleven men given energetic abortive treatment within thirty-six or forty-eight hours. He first anesthetized the urethra with cocain, and then injected a 5 per cent. solution of silver nitrate and a 4 or 5 per cent. solution of silver proteinate. The dose was 10 c.c. of each, and the injections were given three times a day for three days. The fluid was retained for four or five minutes and the urethra passively stretched to flatten out recesses.

Riforma Medica, Naples

March 16, 1918, **34**, No. 11

61 *Fever Following Infectious Disease. U. Baccarani.—p. 202.
62 Ossification of Ligaments. C. Guarini.—p. 208.

61. **Meta-Infectious Fevers.**—Baccarani refers to the slight fever he has frequently noted a few days after defervescence in some acute infectious diseases. He accepts as febrile any temperature over 36.5 C. in the axilla in the morning and 36.7 at evening. When it is 37 or 38, he seeks for some complication and almost invariably finds it in constipation, in adenoids, or processes in the internal genitals, the gallbladder, periosteum or heart. Instead of enquiring whether the bowels have moved, he asks the typhoid convalescent whether there was a sensation that the bowels had been completely emptied or not. This often reveals latent constipation in spite of the regular morning movement. In an instructive post-typhoid case related, only this tendency to very slight fever gave the clue to an otherwise latent appendicitis, confirmed by operation. A tendency to cholecystitis may likewise be responsible for the slight fever. The urine may disclose signs of pyelitis, or the fluctuations in the pulse and slight modifications in the heart sounds may reveal a mild endocarditis. Since he has made a special study of this "feverette" after typhoid or paratyphoid, he very seldom fails to discover some cause to explain it. The infectious disease may have roused some slumbering process, or it may have directly damaged the organ. In either event, prompt

discovery and appropriate measures may ward off serious danger.

Rivista di Clinica Pediatrica, Florence

March, 1918, **16**, No. 3

63 Pathogenesis of Infantile Atrophy. D. Pacchioni.—p. 113.
64 *Rachitis. A. Gismondi.—p. 128.

64. **Nature and Treatment of Rachitis.**—Gismondi theorizes to explain the favorable action of cod liver oil, phosphorus and calcium in rachitis, and relates clinical experiences confirming their efficacy. He says that fully 80 per cent. of the children under 2 brought to the dispensary in his town in the last three years have had rachitis. He regards it as a disease of the entire organism, not of the bones alone. The blood and soft parts, as well as the bones, lack the normal content of calcium. His experience indicates that any milk allowed at night after the first year of age directly favors the development of rachitis. A little soft mashed vegetables helps to ward it off, even commencing at the seventh or eighth month. The yolks of eggs, under the age of 2, especially before the child is a year old, have seemed to him to do more harm than good. In treatment of rachitis, he prefers to give the cod liver oil in the form of a 50 per cent. emulsion. To each 100 gm. of this emulsion he adds 0.01 gm. phosphorus. A teaspoonful thus represents 0.5 mg. of phosphorus, and he gives one or two a day, immediately before eating. Along with this, calcium acetate is given, in doses of 0.5 gm. daily, fractioned. He says that a much larger proportion of the acetate is retained—up to 20, 30 or even 60 per cent.—than of the phosphate or citrate. This same treatment has a curative action also in spasmophilia. The results of his experience with this combination in the last three years, he says, could not have been more satisfactory. The outcome has always been most excellent both in dispensary and private practice. Restoration to normal proceeds most rapidly under this treatment during the period of repair. It is at this stage that the child begins to move about more, and the soft bones bend under the weight of the body and the traction from the muscles. The above treatment hastens the consolidation of the bone, and thus materially shortens this danger period before actual deformity results.

Rivista Critica di Clinica Medica, Florence

March 2, 1918, **19**, No. 9

65 Six Types of Jaundice in Troops. G. Berghinz.—p. 97.

March 16, 1918, **19**, No. 11

66 *Epidemic Meningitis and Serotherapy. A. Fabbretti.—p. 121. Commenced in No. 9, p. 99.

66. **Cerebrospinal Meningitis.**—Fabbretti discusses the present status of serotherapy in meningitis and reports his experiences in thirty-two cases at the hospital for infectious diseases at Florence. The serum does not seem able to arrest the disease in the graver toxic cases, but in the others has a decidedly beneficial action, shortening and attenuating the disease and warding off sequels. To avoid danger of anaphylaxis—which is undoubtedly responsible for the untoward by-effects of serotherapy in certain cases—he advises to push the serotherapy vigorously before the anaphylactic state has time to develop, that is, during the first eight or ten days. After this, the serotherapy should be applied only when there are serious relapses with meningococci in the cerebrospinal fluid. When the fluid is under high pressure, it is best to refrain from injecting the serum. He had serum sickness in seven of his cases. In three cases in which the injection was made after an interval of one or two weeks after the last injection, the meningeal phenomena returned more intense than at first, but subsided within twenty-four hours. One patient had collapse, with cessation of respiration for a few seconds, at the fifth injection, the sixteenth day of the treatment. Two patients had convulsions after the third or fourth injection the second week of treatment. One patient with severe kidney disease did not have it aggravated by the serotherapy but it was benefited by the dietetic measures imposed. Only one of his patients developed appreciable sequels; he was left totally blind, with slight spastic paralysis. The total mortality was 41.3 per cent., but a third of the patients were over 40 years old.

Brazil-Medico, Rio de Janeiro

Feb. 2, 1918, **32**, No. 5

67 *Sporotrichosis in Brazil. C. de Rezende.—p. 33.

Feb. 16, 1918, **32**, No. 7

68 Eugregarina Parasites of Arthropods. C. F. Pinto.—p. 49.
69 Addison's Disease. C. Fonte.—p. 50.

67. **Sporotrichosis in Brazil.**—De Rezende describes the case of a woman of 43 who had noticed for a month two red patches on the left hand. They rapidly assumed the appearance of extragenital primary syphilitic lesions, and some improvement followed injection of a salvarsan preparation. This improvement proved only transient, discrediting the diagnosis, but the lesions finally healed under two months of a tonic and iodids internally, plus Reclus' ointment. Soon after, de Rezende encountered a case of similar lesions in a boy of 11. They had begun five months before as hard lumps, but soon ulcerated. After failure of other measures, the lesions healed under cotton dipped in a 2 per thousand solution of mercuric chlorid. No medicine was given internally. There was no enlargement of glands or impairment of the general health in either case. The retrospective diagnosis was sporotrichosis, although this had never been known before in his region. Two other cases in a boy and girl of 15 and 10 confirmed this diagnosis, and recovery was soon complete under potassium iodid internally and local application of the 2 per thousand mercuric chlorid. The girl's arm showed nine lumps—a centripetal lymphangitis. These four cases within a year in a small town in Brazil show that sporotrichosis is not so rare as assumed. The 1 or 2 per thousand solution of mercuric chlorid seems to exert an almost specific action on the lesions.

Medicina Ibera, Madrid

Feb. 7, 1918, **2**, No. 14

70 *Hyperemia in Therapeutics. R. Coderque.—p. 161.
71 Cortical Hemianesthesia plus Oculomotor Paralysis, Nystagmus and Myopia. C. Juarros.—p. 168.
72 Autoserotherapy for Tuberculous Ascites. Blanc y Fortacin.—p. 171.

Feb. 21, 1918, **2**, No. 16

73 *Prostatism without Enlargement of the Prostate. M. Seres.—p. 225.
74 Intubation of the Larynx. E. Suñer.—p. 228.
75 The Dangers of Materialism. S. Herreros.—p. 235.
76 Influence of Arthritism and Endocrine Disturbance on Heart Disease. D. F. Huertas y Barrero.—p. 253.

70. **Hyperemia in Therapeutics.**—Coderque relates that Sehrt and Lindember in Germany have been publishing very favorable reports of the favorable influence of passive hyperemia on the healing of war wounds. They say that the pain vanishes as a rule in ten or twelve hours after the constricting band has been applied. Grenade wounds of joints are said to heal rapidly, with retention of joint functioning. They left the constricting band in place for from six to twelve days but did nothing else to the wound except cover it with gauze and a loose bandage, trusting the cleansing of the wound to the profuse secretion from the stasis hyperemia. Sehrt insists that there is no other treatment that ensures so promptly and so certainly the salvation of limbs and joints with conservation of function. In France, active hyperemia has been applied in treatment of wounds in the form of a jet of superheated air. Coderque has had favorable results with hyperemia induced with a suction glass in mastitis and with the constricting band in gonorrheal arthritis. He declares that there is no antiseptic with such a powerful action as that of induced hyperemia, relieving pain, killing bacteria and softening the tissues. With acute processes, the constriction hyperemia can be maintained for twenty or twenty-two hours at a time, but with tuberculous lesions one or two hours is the rule, skipping one day in five, and supplementing this treatment with heliotherapy. He reports a few cases to illustrate the frequent advantage from hyperemia as an adjuvant.

73. **Prostatism Without Enlargement.**—Seres describes ten operative cases to show the different types of prostate mischief which may induce symptoms resembling those from enlargement of the prostate. In some of the cases there was a group of incipient adenomas, with complete retention. These groups encircled the urethra at a point where there was

stenosis, or they encircled the neck of the bladder, or were in the lumen of the prostatic urethra. They were all readily shelled out. In other cases chronic prostatitis or an intravesical bar caused the obstruction.

Prensa Medica, Buenos Aires

Jan. 20, 1918, **4**, No. 23

77 *Modified Technic for Production of Antitoxic Serums. I. R. Kraus and A. Sordelli.—p. 307.
78 *Hemoglobinuria plus Raynaud's Disease. M. R. Castex and J. Queirel.—p. 307.
79 Cerebellopontine Angle Tumor. L. Grasso and E. Dameno.—p. 309.
80 Technic for Obtaining Specimens for Biopsy. S. Mazza.—p. 315.

Jan. 30, 1918, **4**, No. 24

81 *Spirochetes and Filtrable Viruses. R. Kraus.—p. 323.
82 *Venereal Granuloma. J. Nin Posadas and A. H. Roffo.—p. 323; C. V. Zerbini.—p. 332.
83 Traumatic Action of Strongylus Equinus. S. E. Parodi and V. Widakovich.—p. 326.
84 Normal Beef Serum in Treatment of Anthrax. J. Penna, J. B. Cuenca and R. Kraus.—p. 333. Continuation.

77. **Production of Antitoxin.**—Kraus and Sordelli comment on the numerous questions that have to be solved before the production of immune serums will pass from the empiric stage to a solid scientific foundation. They review the various methods in vogue for rapid production of antitoxin and other serums, and then describe the method they have been using of late to hasten and render more certain the production of diphtheria antitoxin. They injected toxin neutralized with antitoxin, giving progressively increasing doses, and using horses over 10 years old, making the injections twice a week or oftener. One horse, 12 years old, received five injections in twelve days, and seven days later the serum gave 400 units. Two others, 13 and 18 years old, receiving six injections in sixteen days, gave 500 and 300 units. Three other horses given thirteen injections gave 300, 800 and 250 units. These results with old horses surpass in the number of units and in the shortness of the time anything previously realized with the old technic, thus saving both time and expense. The toxin was neutralized with antitoxin up to Ehrlich's "Lo" guinea-pig standard. The results obtained harmonize with and even surpass those recently published by McClintock and Ferry. Experiments are now under way to decide whether the age of the horses is an essential factor .

78. **Raynaud's Disease and Paroxysmal Hemoglobinuria of Syphilitic Origin.**—The man of 36 had moist gangrene develop in the Raynaud syndrome. For seven years he had been having occasional hematuria. He denied syphilis but had had several sieges of gonorrhea. The Raynaud's disease and gangrene had been developing for eleven months, commencing with a septic ingrown toenail. He had lost 21 kg. The Wassermann test was negative. He suffered from the cold one day so that his bed had to be artificially heated. In five or ten minutes after having felt so extremely chilly, he voided almost pure blood. The diagnosis was ignored syphilis plus tobacco poisoning, the latter mainly responsible for the permanent vasoconstriction entailing the Raynaud clinical picture. Specific treatment as for syphilis promptly restored clinically normal conditions, confirming the diagnosis, notwithstanding the negative Wassermann findings and the negative blood findings. Both the Raynaud syndrome and the hemoglobinuria were evidently of syphilitic origin.

81. **Spirochetes and Filtrable Viruses.**—Kraus cites various data which seem to establish that certain spirochetes at a certain stage of their development are so minute that they can pass through a Berkefeld filter. Schaudinn was convinced that the germ causing yellow fever was a spirochete of this type. Organs that contain the spirochete of infectious jaundice yield filtrates which induce the infection in guinea-pigs, according to Japanese investigators. Nicolle has also reported that the filtrate of the blood in typhus is very infectious. Futaki's finding of spirochetes in the kidneys in seven cases of typhus adds another link to the chain connecting spirochetes with invisible viruses.

82. **Venereal Granuloma.**—The extensive ulcerating granuloma was of nine years' standing, but it retrogressed completely under twenty intravenous injections of a 1 per cent. solution of tartar emetic. There was no general reaction after the first injection. The doses were from 0.02 to 0.05 gm. in the first series of six injections, and after this from 0.05 to 0.10 gm. The microphotographs show the characteristic cultures. Zerbini reports two other cases cured likewise with tartar emetic.

Revista de Medicina y Cirugia Practicas, Madrid

Feb. 28, 1918, **42**, No. 1496

85 Sebaceous Cyst of the Epiglottis; Two Cases. F. Bertran y Castillo.—p. 225.

Revista Medica del Rosario

March, 1918, **8**, No. 1

86 *Cholecystectomy for Gallstones. J. B. Abalos.—p. 1. Conclusion.
87 *Dyspepsia from Perigastritis. R. Araya.—p. 15.
88 Chronic Cervical Glandular Lesions in Inherited Syphilis. A. Luque.—p. 29.
89 Social Medicine as a Special Chair in the Medical Schools. E. Mazzini.—p. 34.

86. **Cholecystectomy.**—Abalos has removed the gallbladder in 100 cases and advises this operation, as medical measures in treatment of gallstone cholecystitis have only a palliative action. By the technic he describes there is no danger of pseudorecurrence of gallstones, as is liable to occur with Kehr's ligation of the cystic duct. When the gallbladder is free he works from below, but when it is adherent he detaches it first, working from above downward. He severs the cystic duct between two clamps. The clamp seizing the central stump of the cystic duct rests on a wick with epinephrin, which drains the bed of the gallbladder. This clamp is left for two or more days. The cystic artery is clamped with the duct when possible; when not, a separate clamp is applied to this artery and left likewise for two or more days. These retention clamps have to be silver plated or gold plated, to ensure their nonrusting. When he has to operate without an assistant, he uses a retractor which has a special device for lifting the liver up out of the way. By this technic no suture materials are left in the wound. Even the bed of the gallbladder is left to heal spontaneously, with no attempt at peritonization. The incision is sutured except the small opening left for the gauze and clamp. With this technic, no foreign body is left in the tissues, while the whole operation is so simple it takes very little time. Sprengel's transverse incision, severing merely the rectus, gives ample access as the clamp seizing the cystic duct in the depths does not require much of an opening for it. With this clamp close to the gallbladder, the latter is easily drawn up, exposing the liver. The other clamp, to be left for two days, can be applied with precision and ease to the cystic duct, close to its junction with the hepatic duct. If drainage is indispensable, he drains the common bile duct with a small rubber tube, but refrains here also from using any suture material. He says that cholecystectomy is indicated with rebellious and repeated gallstone disturbances even although there may not be any stones in the gallbladder itself.

87. **Dyspepsia from Perigastritis.**—Araya reports four cases in which long years of suffering from the stomach, dyspepsia and gastralgia, rebellious to all other measures, were cured at one stroke by a laparotomy to break up adhesions from perigastritis. In one case gastro-enterostomy was done besides. His cases teach anew the lesson of the multiplicity of the causes that may be responsible for stomach disturbances, and the necessity for removing the cause instead of combating symptoms. Pain is the most constant symptom with adhesions; it may range from a simple oppression in the stomach region to actual crises. The pain is generally exaggerated by eating, by movements affecting the abdomen, and by walking. It is relieved more or less by reclining or wearing an abdominal band. Pain on pressure below the left false ribs is considered significant by some. The increase in the pain when the stomach is inflated is also instructive; it may also show a depression in its outline from traction by some linear adhesion. The symptoms from the dyspepsia from adhesions hampering the stomach may be associated with or masked by intestinal lesions, including appendicitis. His patients were all women between 33 and 50, and the adhesions were located at different points.

THE CHICAGO SESSION

AMERICAN MEDICAL ASSOCIATION, SIXTY-NINTH ANNUAL SESSION, CHICAGO, JUNE 10-14, 1918

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-ninth annual session of the American Medical Association will be held in Chicago, June 10-14, 1918.

The House of Delegates will convene at 10 a. m., Monday, June 10. In the House the representation of the various constituent associations for 1918 is as follows:

Alabama	3	New Hampshire	1
Arizona	1	New Jersey	3
Arkansas	2	New Mexico	1
California	4	New York	11
Colorado	2	North Carolina	2
Connecticut	2	North Dakota	1
Delaware	1	Ohio	5
District of Columbia	1	Oklahoma	2
Florida	1	Oregon	1
Georgia	3	Pennsylvania	9
Idaho	1	Rhode Island	1
Illinois	9	South Carolina	1
Indiana	4	South Dakota	1
Iowa	3	Tennessee	2
Kansas	2	Texas	5
Kentucky	4	Utah	1
Louisiana	1	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	5	West Virginia	2
Michigan	4	Wisconsin	3
Minnesota	2	Wyoming	1
Mississippi	2	Canal Zone	1
Missouri	5	Hawaii	1
Montana	1	Philippine Islands	1
Nebraska	2	Porto Rico	1
Nevada	1		

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The general meeting, which constitutes the opening exercises of the Scientific Assembly of the Association, will be held at 8:30 p. m., Tuesday, June 11. The various sections of the Scientific Assembly will meet Wednesday, June 12, at 9 a. m., and subsequently, according to their respective programs.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 10, 11, 12 and 13, and from 8:30 a. m. to 12 noon, on Friday, June 14.

CHARLES H. MAYO, President.

HUBERT WORK, Chairman, House of Delegates.

ALEXANDER R. CRAIG, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state societies are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members who have reported to THE JOURNAL in time to be included:

STATE DELEGATES

ALABAMA
E. F. Moody, Dothan
S. W. Welch, Montgomery.

ARKANSAS
W. T. Wooton, Hot Springs.

CALIFORNIA
A. B. Spalding, San Francisco.
H. P. Newman, San Diego.

COLORADO
L. H. McKinnie, Colorado Springs.
Oliver Lyons, Denver.

CONNECTICUT
D. Chester Brown, Danbury.

DELAWARE
Willard Springer, Wilmington.

DISTRICT OF COLUMBIA
G. Wythe Cook, Washington.

GEORGIA
M. A. Clark, Macon.

IDAHO
C. R. Scott, Twin Falls.

ILLINOIS
Don Deal, Springfield.
R. R. Ferguson, Chicago.
C. J. Whalen, Chicago.

INDIANA
C. H. Good, Huntington.
Miles F. Porter, Fort Wayne.
Charles Stoltz, South Bend.
A. E. Bulson, Jr., Fort Wayne.

IOWA
William B. Small, Waterloo.

ISTHMIAN CANAL ZONE
William B. Pierce, Ancon, C. Z.

KANSAS
James W. May, Kansas City.

KENTUCKY
A. T. McCormack, Bowling Green.
M. E. Alderson, Russellville.

LOUISIANA
W. H. Seemann, New Orleans.

MARYLAND
A. McGlannan, Baltimore.
Randolph Winslow, Baltimore.

MASSACHUSETTS
F. B. Lund, Boston.
J. B. Blake, Boston.
H. G. Stetson, Greenfield.
L. F. Woodward, Worcester.

MICHIGAN
Guy L. Connor, Detroit.
J. D. Brook, Grandville.

MINNESOTA
H. P. Ritchie, St. Paul.
George D. Head, Minneapolis.

MISSISSIPPI
T. M. Dye, Clarksdale.

MISSOURI
E. J. Goodwin, St. Louis.
R. M. Funkhouser, St. Louis.

MONTANA
Rudolph Horsky, Helena.

NEBRASKA
LeRoy Crummer, Omaha.

NEVADA
William Z. Dahl, Reno.

NEW JERSEY
William S. Lalor, Trenton.

NEW MEXICO
H. A. Miller, Clovis.

NEW YORK
F. M. Crandall, New York.
John O. Polak, Brooklyn.
William F. Campbell, Brooklyn.
Grover W. Wende, Buffalo.
W. Stanton Gleason, Newburgh.
E. Eliot Harris, New York.

NORTH CAROLINA
H. A. Royster, Raleigh.
C. P. Ambler, Asheville.

NORTH DAKOTA
Chas. MacLachlan, New Rockford

OHIO
J. H. J. Upham, Columbus.
H. C. Haning, Dayton.
A. B. Walker, Canton.
B. R. McClellan, Xenia.
C. D. Selby, Toledo.

OKLAHOMA
Charles R. Hume, Anadarko.

PENNSYLVANIA
David N. Dennis, Erie.
Edward D. Heckel, Pittsburgh.
John D. McLean, Philadelphia.
C. L. Stevens, Athens.
W. F. Bacon, York.
George R. S. Corson, Pottsville.
H. B. Gibby, Wilkes-Barre.
George G. Harman, Huntingdon.
Wilmer Krusen, Philadelphia.

PORTO RICO
Jose S. Belaval, San Juan.

SOUTH CAROLINA
E. A. Hines, Seneca.

SOUTH DAKOTA
Percy D. Peabody, Webster.

TENNESSEE
A. F. Richards, Sparta.
E. T. Newell, Chattanooga.

TEXAS
C. E. Cantrell, Greenville.
H. D. Barnes, Childress.
M. M. Carrick, Dallas.

UTAH
Sol G. Kahn, Salt Lake City.

VIRGINIA
Robert C. Bryan, Richmond.

WASHINGTON
D. E. McGillivray, Port Angeles.
H. H. McCarthy, Spokane.

WEST VIRGINIA
C. R. Ogden, Clarksburg.
Frank LeMoyne Hupp, Wheeling.

WISCONSIN
Rock Sleyster, Waupun.
H. M. Brown, Milwaukee.
C. H. Lemon, Milwaukee.

WYOMING
J. D. Lewellen, Powell.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE
W. J. Stone, Toledo.

SURGERY, GENERAL AND ABDOMINAL
Floyd W. McRae, Atlanta, Ga.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY
Horace G. Wetherill, Denver.

OPHTHALMOLOGY
Thomas B. Hollaway, Philadelphia.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
George L. Richards, Fall River.

DISEASES OF CHILDREN
T. C. McCleave, Oakland, Calif.

PHARMACOLOGY AND THERAPEUTICS
Torald Sollmann, Cleveland.

STOMATOLOGY
William C. Fisher, New York.

NERVOUS AND MENTAL DISEASES
G. A. Moleen, Denver.

DERMATOLOGY
Sigmund Pollitzer, New York.

PREVENTIVE MEDICINE AND PUBLIC HEALTH
Otto P. Geier, Cincinnati.

GENITO-URINARY DISEASES
E. O. Smith, Cincinnati.

ORTHOPEDIC SURGERY
John Ridlon, Chicago.

GASTRO-ENTEROLOGY AND PROCTOLOGY
J. C. Johnson, Hamilton, Ala.

DELEGATES FROM THE UNITED STATES GOVERNMENT SERVICES

United States Army.
United States Navy
United States Public Health Service

MEDICAL CHICAGO

The Medical Features of the Convention City

The word "Chicago" is derived from an Indian word meaning "wild onion" which should not, however, reflect unfavorably on the metropolis of today. There remains much that is "wild," and from time to time the odor of the stockyards may be reminiscent of the "onion"; but the development of Chicago in literature, in art, in finance, in manufacturing, and as a medical center is typical only of the strength of the onion and of none of its disagreeable features. Its strength is also typified by its ability to continue this life after two very notable relapses—the Fort Dearborn Massacre of 1812 and the Chicago Fire of 1871. Chicago is the fifth largest city in the world, being preceded by London, New York, Paris and Berlin. As there is grave doubt concerning the population of the center of Kultur, Berlin might well be omitted. Forty railroads, twenty-three of which are trunk lines, terminate in Chicago. The development of Chicago as a manufacturing center is measured in figures running into billions, as shown by the annual bank clearings, which exceed twenty billion dollars. However, the growth of the city in literature, art and science has kept pace with its magnificent commercial development.

MEDICAL COLLEGES

It was the custom, not so long ago, for Chicago to boast of the number of medical students it turned out annually; today it prefers to boast of the quality. There are now seven medical colleges in Chicago, three of them listed by the Council on Medical Education of the American Medical Association in Class A, two in Class B and two in Class C.

RUSH MEDICAL COLLEGE: This institution, one of the oldest of the Northwest, was founded by Daniel Brainard in 1837, the same year in which the city was incorporated. At the meeting of the American Medical Association in St. Louis in 1854, Dr. Brainard received a premium from the committee on prize essays for "An Essay on a New Method of Treating Ununited Fractures and Certain Deformities of the Osseous System," which was exceptional for that time. The first two years of the medical work of Rush Medical College have been given at the University of Chicago since the affiliation of the college with the university; the last two years are conducted in three buildings at the corner of Harrison and Wood streets, as well as in hospitals affiliated with the college. The juniors and seniors have thus been strangers to the underclassmen. By raising $3,461,000, the University of Chicago secured a fund of $2,000,000, offered by the General Education Board of the Rockefeller Foundation for the organization of medical instruction at the university. Rush Medical College will therefore merge with the new school and become the Medical Department of the University of Chicago. The plans of reorganization include the erection of a hospital on the grounds of the university on the South side, the transfer of all undergraduate medical education to the university, and the creation of a postgraduate medical school at the present location of the college. By this means the underclassmen will regain the enlightening influence lent by the presence of the higher grades.

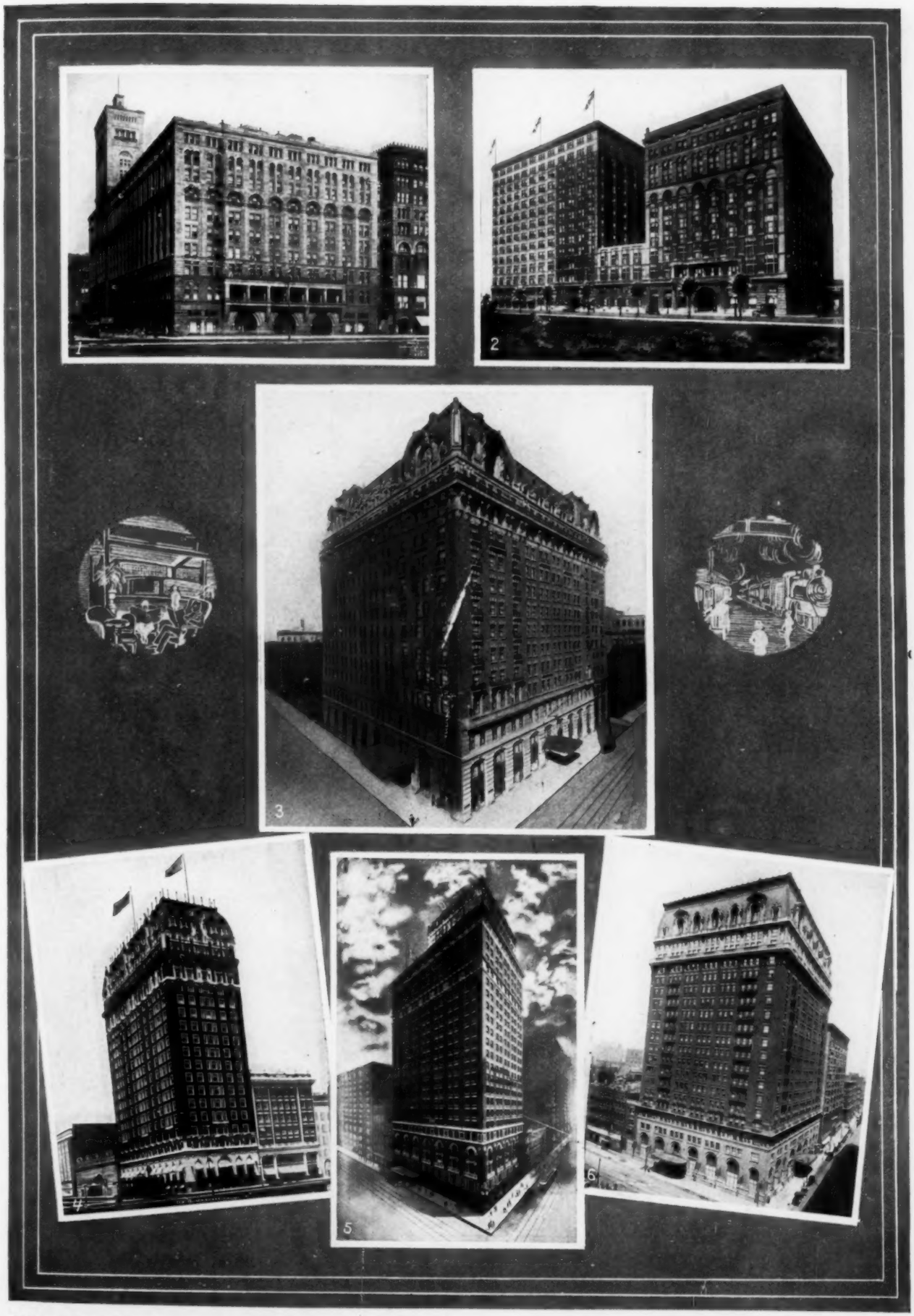
NORTHWESTERN UNIVERSITY MEDICAL SCHOOL: This school was established in 1859 by Dr. Hosmer A. Johnson as the medical department of Lind University. In 1864, the Northwestern University Medical School became independent as the Chicago Medical College under the leadership of Dr. Nathan S. Davis, the "Father of the American Medical Association." In 1869, the Chicago Medical College united with Northwestern University, retaining, however, the name of Chicago Medical College until 1891. Adjoining the college building is Wesley Memorial Hospital. Recently Mr. James Deering set aside an endowment fund of $1,000,000 to be used in the maintenance of Wesley Memorial Hospital and in the furtherance of clinical teaching in the medical school. Northwestern University Medical School claims the honor of being "the first American school to enforce a standard of preliminary education, to adopt longer annual courses of instruction, and to initiate, in 1859, the graded curriculum in which studies were assigned in logical order and in which laboratory departments prepared the way for the practical clinical branches."

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE: This school was organized in 1882 as the College of Surgeons. It became the medical department of the University of Illinois by affiliation in 1897, and an integral part in 1910. In the same year the American Medical Missionary College was absorbed. The relationship with the university was canceled in June, 1912, and was restored in March, 1913. This school is now supported in part by an annual appropriation made by the state, is rejuvenated, and is rapidly growing.

OTHER COLLEGES: Chicago is also the home of the Hahnemann Medical College and Hospital of Chicago, of the combined school representing the Chicago College of Medicine and Surgery and the Loyola University School of Medicine (formerly Bennett Medical College), and of the Jenner Medical College and the Chicago Hospital College of Medicine.

POSTGRADUATE MEDICAL EDUCATION

CHICAGO POSTGRADUATE MEDICAL SCHOOL: The Chicago Postgraduate Medical School was established in 1887 by a



HOTEL HEADQUARTERS—(1) AUDITORIUM; (2) CONGRESS AND ANNEX; (3) SHERMAN; (4) BLACKSTONE; (5) MORRISON; (6) LA SALLE

group of physicians, prominent among whom was the late Dr. John H. Hollister. In addition to the college, a general hospital of 100 beds is conducted by the teaching staff.

CHICAGO POLYCLINIC: In 1886, Dr. Truman W. Miller founded this school. Its clinical facilities are furnished by a large dispensary that has been built up in a densely populated portion of the city, and by two hospitals owned by the school—the Chicago Polyclinic Hospital and the Henrotin Memorial Hospital.

THE ILLINOIS POSTGRADUATE MEDICAL SCHOOL: This school occupies its own building, and in connection with its educational work, it conducts the West Side Hospital, which has an equipment of 175 beds. It is fortunately located in what is known as the medical Rialto of Chicago, of which more will follow.

RESEARCH INSTITUTIONS

MEMORIAL INSTITUTE FOR INFECTIOUS DISEASES: This institute was founded, Jan. 2, 1902, by Harold F. and Edith Rockefeller McCormick in memory of their son. The first board of trustees consisted of Frank Billings, Christian Fenger, Ludvig Hektoen, Charles L. Hutchinson and Stanley McCormick. It began work at once, utilizing the first floor of the laboratory building of Rush Medical College. In March, 1911, through a bequest from Mrs. Annie W. Durand, the institute was enabled to build a hospital to cost $200,000 with a minimum of forty beds for the free care of persons suffering from infectious diseases. The hospital was formally opened in February, 1913, and in 1914 a laboratory was built at a cost of $100,000. At the present time the total resources of the institute amount to nearly $2,000,000. The institute also has a serum division and publishes the *Journal of Infectious Diseases*. Many important investigations have been conducted by the workers in the institute. Its director is Dr. Ludvig Hektoen.

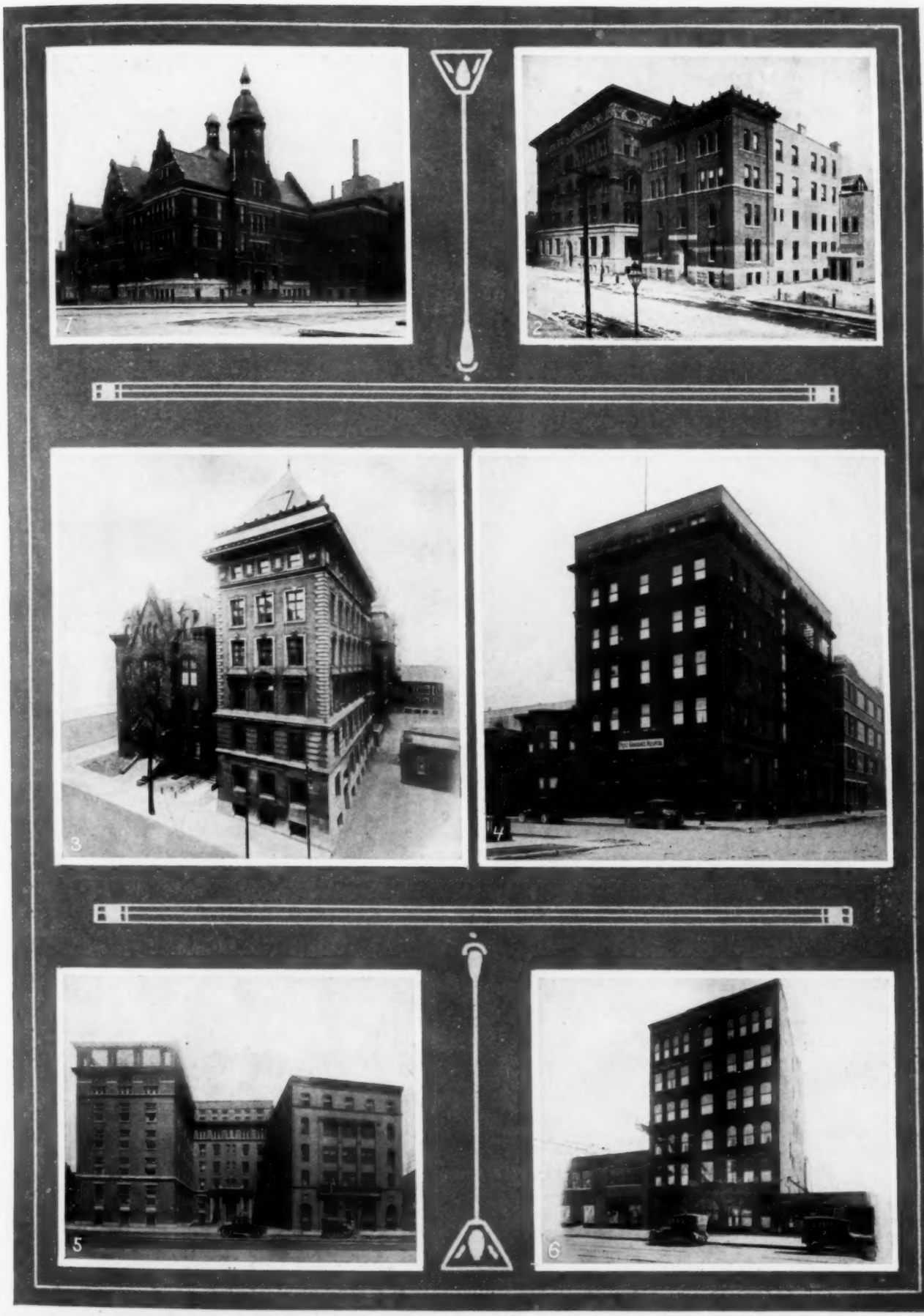
THE MEMORIAL INSTITUTE FOR INFECTIOUS DISEASES

THE NELSON MORRIS RESEARCH INSTITUTE

THE NELSON MORRIS INSTITUTE FOR MEDICAL RESEARCH: This institute was established in 1910 as the result of a donation of $500,000 given by Mrs. Sarah Morris to the Michael Reese Hospital in memory of her husband, Nelson Morris, founder of the firm of Nelson Morris & Co. Dr. John A. Hornsby was superintendent of the hospital at this time, and Drs. James F. Jobling and Solomon Strouse were, respectively, pathologist and assistant pathologist. Of the original donation, $375,000 was expended for construction and the balance for equipment. The institution is supported by funds provided by the board of directors of the Michael Reese Hospital. During the present fiscal year the budget of the institute has been $18,000, exclusive of the maintenance of the library, of building maintenance and repairs, and of such general supplies as are obtainable directly from the Michael Reese and Sarah Morris hospitals, all three institutions being under the control of a single board of directors. The institute conducts medical research by its full-time staff and clinical research by those members of the hospital staff to whom research privileges are assigned. In addition, the staff has charge of the routine laboratory work of the Michael Reese and Sarah Morris hospitals. The institute departmental heads at the present time are: Oscar T. Schultz (M.D., Johns Hopkins, 1903), director; Katherine M. Howell (M.D., Rush Medical College, 1913), serology; and Withrow Morse (Ph.D., Columbia University, 1909), chemistry.

THE OTHO S. A. SPRAGUE MEMORIAL INSTITUTE: This institute was organized in January, 1911, by Mr. Albert A. Sprague, brother of the donor, who bequeathed a sum of money for the purpose of relieving human suffering. May 1, 1911, Dr. H. Gideon Wells of the University of Chicago was appointed director of medical research. It was decided to use none of the money for the erection of buildings, but to cooperate with existing institutions in furthering medical research. Since its foundation, the institute has supported research work in the University of Chicago, Rush Medical College, the Presbyterian Hospital, the Children's Memorial Hospital and the pathologic laboratories of St. Luke's Hospital and of Cook County Hospital. The staff of the institute consists of about twenty members, exclusive of special assistants and investigators and untrained helpers. Of the investigators, about one half give their entire time to the work of the institute. It has also supported special investigations in industrial diseases, caisson disease, anesthesia, infant health, etc., by special workers. The scientific work of the institute is under the supervision of an advisory council consisting of Drs. James B. Herrick, Frank Billings, Ludvig Hektoen, Joseph L. Miller, E. R. LeCount, and Professors Julius Stieglitz and E. O. Jordan.

THE UNIVERSITY OF CHICAGO: The University of Chicago was founded in 1857, and after some vicissitudes, in 1866 succeeded in interesting Mr. John D. Rockefeller, who has contributed an amount in excess of $34,000,000 to establish



(1) UNIVERSITY OF ILLINOIS MEDICAL SCHOOL; (2) NORTHWESTERN UNIVERSITY MEDICAL SCHOOL; (3) RUSH MEDICAL COLLEGE; (4) POST-GRADUATE MEDICAL SCHOOL OF CHICAGO; (5) ILLINOIS POST-GRADUATE MEDICAL SCHOOL; (6) THE CHICAGO POLYCLINIC

MICHIGAN BOULEVARD; ON THE RIGHT IS THE ART INSTITUTE

the institution on a firm and lasting basis. The college grounds comprise 92 acres, and there are fifty-three buildings devoted to educational purposes. The buildings are of a uniform type, a scheme of modern Gothic architecture being carried out in all of the structures.

NORTHWESTERN UNIVERSITY: Northwestern University was founded in 1851, and is located in Evanston, 12 miles north of Chicago. It covers an area of 75 acres. The professional schools are all located in the city of Chicago, including the dental, pharmacy and law schools.

HOSPITALS

There are about eighty-five hospitals in Chicago, most of which are under denominational control. Many of them are closely affiliated with the medical schools, and are under the medical supervision of members of the faculties of the colleges.

COOK COUNTY HOSPITAL: The Cook County Hospital occupies 12 acres at Wood, Harrison and Lincoln streets. New buildings recently erected, at a cost of $3,650,000, make this the largest and most modern institution of its kind in the Middle West. There are 2,700 beds available. During 1917, 34,400 patients were treated in the hospital, and 18,612 in the dispensary. An average of eight major surgical operations are performed at the hospital every day, and during 1917 over 10,000 roentgen-ray examinations were made and over 500 necropsies performed. There are two amphitheaters in the hospital, each seating 250 persons, for the holding of clinics.

A part of this hospital is the new psychopathic hospital, erected in 1915 at a cost of approximately $500,000. During 1917, over 4,000 patients were admitted to this department.

THE ILLINOIS CHARITABLE EYE AND EAR HOSPITAL: This institution was founded by Dr. E. L. Holmes in 1859. It is located at Adams and Peoria streets, and has a capacity of 1,756, with an outpatient service which treats 25,000 patients annually. It is supported by an annual appropriation of about $80,000 by the state, and a recent appropriation of $500,000 provides for a new building. Clinics are held daily, and are open to all physicians who desire to come.

MUNICIPAL TUBERCULOSIS SANITARIUM: This institution, a part of which is shown in the illustration, is situated at North Crawford and Bryn Mawr avenues, within the city limits, and covers an area of 160 acres. The thirty-two principal buildings, including the administrative headquarters, and a concrete contagious building for men and women, cost approximately $2,500,000. There are 870 beds in addition to eight dispensaries, which are conducted in different parts of the city from which patients requiring institutional supervision are sent to the sanatorium. The sanatorium is supported by the annual taxes levied by the city.

THE CHICAGO MEDICAL SOCIETY

The Chicago Medical Society was organized in April of the year 1850, and continued under this name for two years, when it was changed to the Cook County Medical Society. The society continued until 1858, when it was changed back to its original name, the Chicago Medical Society, which name it has had ever since.

Among the founders of the society in 1850 were Drs. Levi D. Boone, Daniel Brainard, B. McVickar, W. B. Herrick, John Evans, Edwin Meek, J. H. Bird, J. V. Z. Blaney, Samuel W. Ritchey, Phillip Maxwell and N. S. Davis. Dr. Levi D. Boone was elected as the first president.

The society continued under its original constitution as drawn up at that time until February, 1903, when a new constitution was formulated and the society was divided up into districts, or "branches." At that time there were eleven

branches with a total membership of 1,315. At present there are fifteen branches, and the active membership of the society is 3,084, a nonresident membership of thirty-five, making a total of 3,119.

The branches have their own branch officers, and hold scientific meetings each month, excepting during the months of July, August and September.

The central society holds a scientific meeting each week except during July, August and September. These meetings are arranged by the secretary and the president, and are presided over by the president.

A weekly bulletin known as the *Official Bulletin of the Chicago Medical Society* is published each week. The *Bulletin* contains the announcements of the central society and of the branches as well as those of the affiliated societies, and each week an abstract is published of the scientific meeting, of the papers read, and the discussions.

The council of the Chicago Medical Society meets each month, with the exception of July, August and September. The council is composed of fifty-four councilors who are elected by the branches, that is, each branch is entitled to one councilor for the first fifty members and an additional one for the first hundred and one for each additional hundred members. In addition to the councilors elected by the branches, there are five councilors-at-large elected each year to serve a term of three years, and the retiring president becomes a councilor to serve a term of three years. This body is presided over by the president-elect.

The council at its meeting in October elects nine standing committees as follows:

Membership Committee: This committee is made up of three members whose duty it is to investigate the personal and professional standing of all applicants for membership and report on them to the council with their recommendation.

Medicolegal Committee: This committee is made up of three members whose duty it is to represent the Chicago Medical Society on the Medicolegal Committee of the Illinois State Medical Society. They defend the members when sued for alleged malpractice. This legal defense is accorded to every member in good standing, and the expenses are covered by the regular dues, no assessment being made.

The Milk Commission: This is composed of six members and the president ex-officio. The work of the Milk Commission is to secure a supply of pure and clean raw milk that can be relied on for the feeding of infants, and the commission certifies to milk from farms where the milk is produced in accordance with the conditions imposed and equals the standard that has been designated. In addition to this the object is to disseminate knowledge concerning the hygienic importance of a wholesome milk supply.

Ethical Relations Committee: This committee is made up of three members whose duty it is to take cognizance of and investigate and make recommendations on questions affecting the ethical relations of members to each other, to the society, to the profession and to the public. The committee also makes proper investigations of any charges of unethical conduct preferred against any member, and submits its conclusions and recommendations to the council.

Criminal Abortion Committee: This committee is made up of three members whose duty it is to investigate all matters pertaining to criminal abortions.

Election Commission: This committee is composed of four members whose duty it is to conduct all elections, and they also have charge of all matters pertaining to the election.

HOME OF THE AMERICAN MEDICAL ASSOCIATION

Constitution and By-Laws Committee: This committee is composed of three members whose duty it is to take care of all changes to the constitution and by-laws. Any change is referred to them, and they then bring in their recommendations to the council.

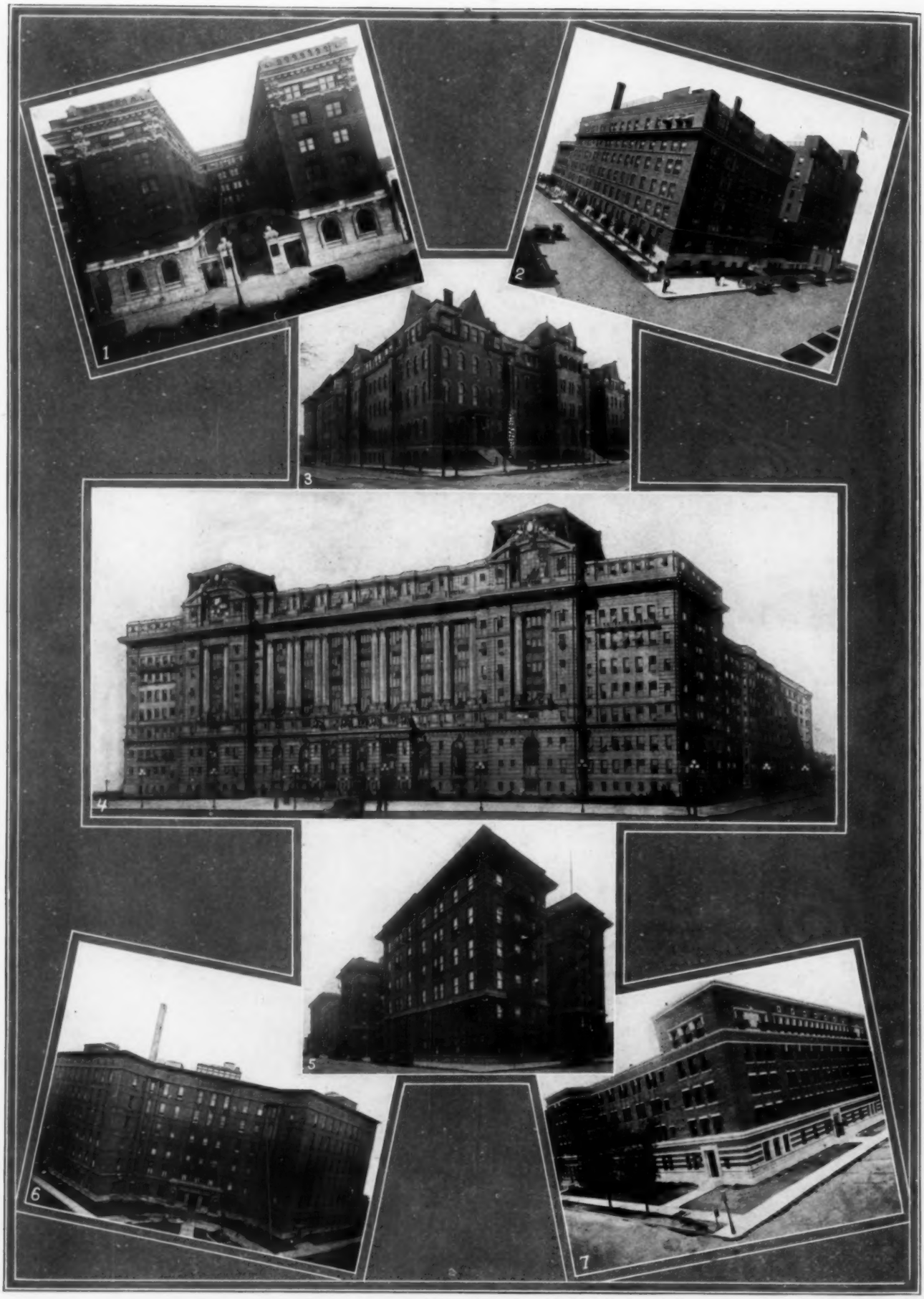
Public Relations Committee: This committee is composed of three members together with the president and secretary ex-officio. Their duty is to take up all matters of public policy or legislative matters, and the work is carried on in conjunction with the State Legislation Committee on all matters pertaining to the medical profession.

Grievance Committee: This committee is composed of three members whose duty it is to investigate all complaints made against physicians, by the laity as well as by the profession. They are also working in conjunction with the state investigators in an effort to eliminate the "quacks."

There are ten special societies which by vote of the council are recognized as sections of the Chicago Medical Society. They are: the Chicago Neurological Society; Chicago Pathological Society; Chicago Urological Society; Chicago Dermatological Society; Chicago Laryngological and Otological Society; Chicago Pediatric Society; Chicago Orthopedic Society; Chicago Surgical Society; Chicago Ophthalmological Society, and Chicago Academy of Surgery.

Each special or affiliated society holds a meeting each month excepting during July, August and September, so that with the branch societies there are about twenty-five meetings held each month apart from the general society meeting.

The general society last year held thirty-five meetings, and there were 107 papers contributed to the scientific pro-



SOME CHICAGO HOSPITALS
(1) ST. LUKE'S; (2) PRESBYTERIAN; (3) MERCY; (4) COOK COUNTY; (5) WESLEY; (6) MICHAEL REESE: (7) PSYCHOPATHIC DETENTION

SOME CHICAGO HOSPITALS

(1) AUGUSTANA; (2) ALEXIAN BROTHERS; (3) WEST SIDE; (4) HENROTIN; (5) LYING-IN; (6) ST. JOSEPH'S

THE MUNICIPAL TUBERCULOSIS SANITARIUM—(1) ADMINISTRATION BUILDING; (2) MEN'S DINING ROOM; (3) SERVICE BUILDING; (4) WOMEN'S DINING ROOM; (5) INFIRMARY BUILDING; (6) SOUTH WING OF INFIRMARY; (7) WOMEN'S COTTAGES. THERE ARE THIRTY BUILDINGS IN ALL. THE SANATORIUM IS LOCATED AT NORTH CRAWFORD AND BRYN MAWR AVENUES, WITHIN THE CITY LIMITS

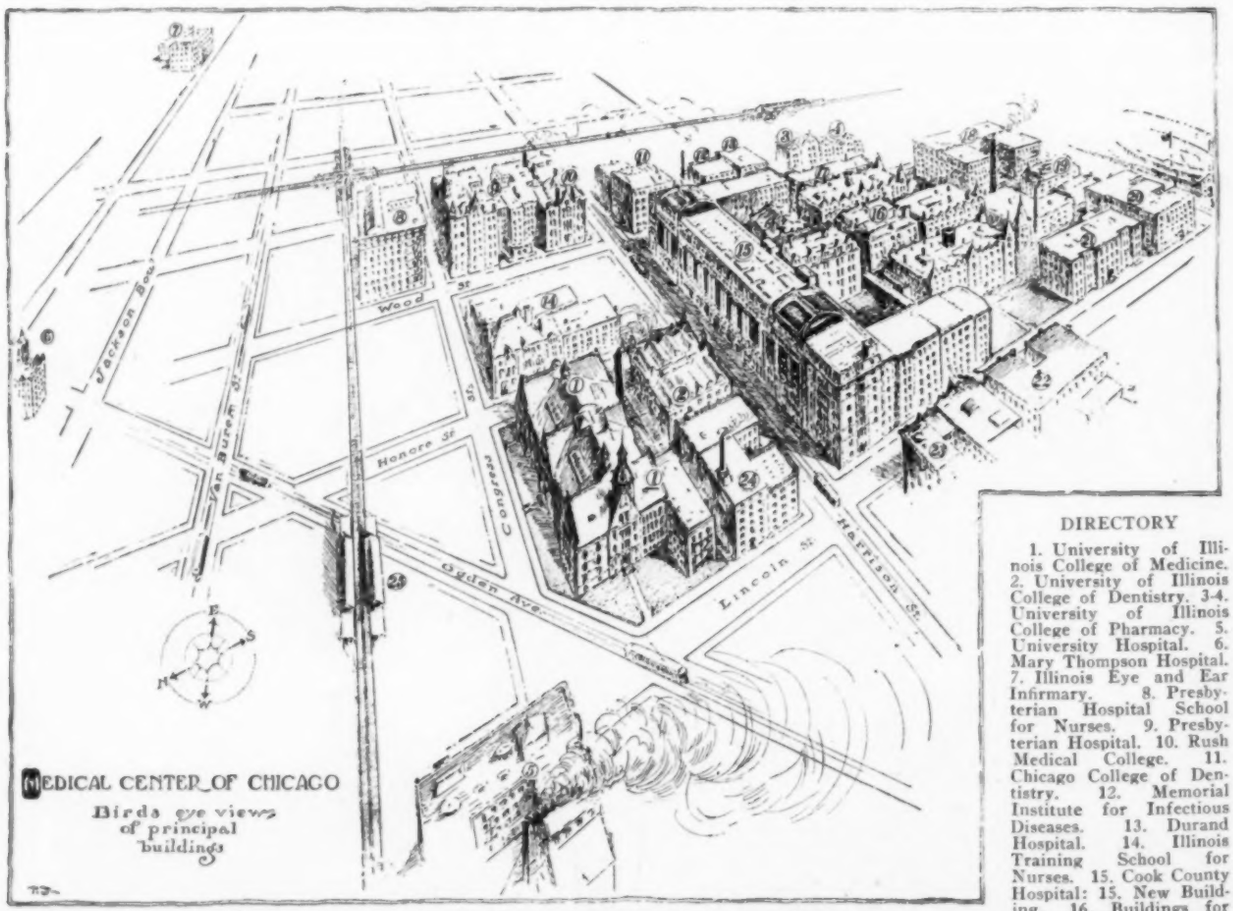
grams, and 112 men took part in the discussion of these papers.

OTHER MEDICAL ORGANIZATIONS

There are a great number of other medical organizations whose membership is limited to physicians and scientists. They include the Institute of Medicine of Chicago, the Chicago Society of Internal Medicine, and a Physicians' Club—a social organization.

TRANSPORTATION

On account of conditions incident to the war, it is impossible to announce any special railroad rates for the convention. The facilities of the railroads are being taxed to the utmost in moving troops, munitions, fuel and food. For the same reason extra train service is being restricted. Delegates coming to the convention from the Pacific Coast, according to information received from the Transcontinental Passenger Association, may take advantage of the regular nine months' excursion fares which are in effect daily from Pacific Coast common points to Chicago. These tickets are sold at a substantial reduction from double the one-way fares. Examples of some of the rates are: from California to Chicago and return, $110; from North Pacific Coast common points to Chicago and return, $100. These tickets are sold from California, Nevada, Oregon, Washington and British Columbia.



DIRECTORY

1. University of Illinois College of Medicine. 2. University of Illinois College of Dentistry. 3-4. University of Illinois College of Pharmacy. 5. University Hospital. 6. Mary Thompson Hospital. 7. Illinois Eye and Ear Infirmary. 8. Presbyterian Hospital School for Nurses. 9. Presbyterian Hospital. 10. Rush Medical College. 11. Chicago College of Dentistry. 12. Memorial Institute for Infectious Diseases. 13. Durand Hospital. 14. Illinois Training School for Nurses. 15. Cook County Hospital: 15. New Building. 16. Buildings for Administration, Laboratories, Employees, etc. 17. Children's Hospital. 18. Psychopathic Institute. 19. Morgue. 20. Tuberculosis Hospital. 21. Contagious Hospital. 22. Frances Willard Hospital. 23. Chicago College of Medicine and Surgery. 24. West Side Hospital. 25. Elevated R. R. Stations: 25. Ogden Avenue. 26. Polk Street. 27. Marshfield Avenue (also Aurora, Elgin & Chicago Line).

THE HOME OF THE ASSOCIATION

The Association headquarters are located at the corner of North Dearborn Street and Grand Avenue, easily accessible from the business district of the city. During the annual session, arrangements will be available for conducting visiting physicians through the building and giving information relative to the conduct of the work. The offices of the Association are open from 8 a. m. to 5 p. m.

ACCOMMODATIONS OFFERED BY CHICAGO HOTELS

The local Committee on Arrangements, on recommendation of its subcommittee on hotels, urges that those who plan to attend the Chicago session, June 10 to 14, should make their selection and write directly to the hotel, stating the accommodations desired and indicating the rate they are prepared to pay. The management of the hotel should be advised of the day on which guests expect to arrive in Chicago, and the length of time they plan to remain. If, in any instance, a satisfactory arrangement with some one of the hotels is not made, write to the chairman, subcommittee on hotels, Dr. C. J. Whalen, 25 East Washington Street, Chicago.

The accompanying table lists a number of Chicago hotels indicating the accommodations which are offered and naming the rates per day. All rates are for accommodation on the European plan except when, as indicated, the American plan is offered.

TABLE OF DAILY RATES AND ACCOMMODATIONS OFFERED BY CHICAGO HOTELS

Hotels, Number of Rooms and Street Addresses	Rooms Without Bath		Rooms With Bath		Parlor, Bedroom and Bath or Connecting Rooms for One or More Persons*
	For One Person	For Two Persons	For One Person	For Two Persons	
AUDITORIUM—500—Michigan Blvd. and Congress. Headquarters of the Sections on Surgery, General and Abdominal; on Pharmacology and Therapeutics; on Pathology and Physiology; on Preventive Medicine and Public Health; on Genito-Urinary Diseases; and on Gastro-Enterology and Proctology.	1.50 to 2.50	2.50 to 4.00	2.50 to 4.00	4.00 to 6.00	....
BLACKSTONE—700—Michigan Blvd. and Seventh. Headquarters of the Sections on Nervous and Mental Diseases and on Dermatology.	3.00	....	3.50 to 7.00	5.00 to 10.00	....
CONGRESS AND ANNEX—1,500—Mich. Blvd. and Cong. Headquarters Sections on Obstetrics, Gynecology and Abdominal Surgery; Diseases of Children; Stomatology; Orthopedic Surgery.	2.00 to 3.00	3.00 to 5.00	3.00 to 6.00	5.00 to 7.00	6.00 to $50.00
LA SALLE—1,800—Madison and La Salle. Headquarters of the Sections on Ophthalmology, and on Laryngology, Otology and Rhinology.	2.00 to 3.00	3.00 to 4.00	3.00 to 5.00	5.00 to 8.00	4.00 to 12.00
MORRISON—1,000—Clark and Madison. Headquarters Section on Practice of Medicine.	....	....	2.00 up	....	....
SHERMAN—1,500—Clark and Randolph. General headquarters housing the Registration Bureau; Information Bureau; Branch Post Office; Scientific Exhibit, and Commercial Exhibit.	....	....	2.00 to 5.00	3.50 to 7.00	5.00 to 15.00
ALEXANDRIA—300—Rush and Ohio Sts.	$ 1.00 to $ 1.25	$ 1.50	$ 1.50 to $ 2.00	$ 2.00 to $ 2.50	....
ASTOR—125—176 N. Clark.	1.00	2.00	1.50	3.00 to 3.50	....
ATLANTIC—750—Clark, near Jackson Blvd.	1.50 to 2.00	2.00 to 3.00	2.00 to 3.00	3.00 to 5.00	....
BISMARCK—300—171 W. Randolph.	1.00	2.00	1.50	3.00 to 3.50	....
BOARD OF TRADE—250—321 S. La Salle.	1.50 up	....	....	....	....
BRADLEY—300—Rush and Grand Ave.	1.00	1.50	1.00 to 1.50	2.00	....
BREVOORT—500—120 W. Madison.	1.50	3.00 to 3.50	2.50 to 3.00	4.00 up	....
BRIGGS—300—Randolph St. and Fifth Ave.	1.00 to 1.50	....	1.50 to 2.50	....	....
CHICAGO BEACH—500—Hyde Park Blvd. and 51st St.. European	1.50 up	2.50 up	2.50 up	4.00 up	....
American	3.50 up	6.00 up	4.50 up	7.50 up	....
CLARENDON BEACH—200—Wilson Ave., at the Lake.	....	....	1.50 up	....	$ 4.00 up
DARLINGTON—125—4700 North Racine Ave.	1.00	1.50	1.50	..... 2.00	....
DEJONGHE—100—12 E. Monroe.	....	....	2.00 up	3.00 up	....
DEL PRADO—400—Midway Blvd. and Jackson Park.	....	....	2.50 to 4.00	....	....
DREXEL ARMS—250—Drexel and Oakwood Blvds.	1.00 to 1.25	1.25 to 1.50	1.50 to 2.00	1.75 to 3.00	....
EDGEWATER BEACH—600—5300 Block, Sheridan Rd.	....	....	2.00 up	3.00 up	4.00 up
ELMS—150—Fifty-Third and Cornell Ave., American Plan	3.00 to 3.50	....	3.00 to 4.00	....	....
FORT DEARBORN—1,000—La Salle and Van Buren Sts.	1.50	2.50	2.00	3.00 to 4.00	....
GLADSTONE—300—Sixty-Second and Kenwood Ave.	....	....	1.00 to 1.50	2.00 to 3.00	3.00 to 5.00
GRAND PACIFIC—400—Jackson Blvd, and Clark.	1.50 to 2.00	....	2.00 up	3.00 up	....
GRANT—250—Dearborn and Madison.	1.00 up	2.00 up	1.50 up	3.00 up	....
GRASMERE—150—4621 Sheridan Road.	....	....	1.50	2.50	4.00 .....
GREAT NORTHERN—550—Jackson, Quincy, Dearborn.	1.50 to 2.00	3.00	2.50 to 5.00	4.00 to 6.00	....
HAYES—300—Sixty-Fourth and University Ave. (American Plan)	2.00	....	....	....	....
HYDE PARK—400—Hyde Park Blvd. and Lake Ave. (American Plan)	3.00	5.00	3.50 to 5.00	6.00 to 8.00	....
JACKSON PARK TAVERN—100—Sixty-Seventh and Cornell	....	....	1.50	2.00	....
LAKOTA—350—Michigan Blvd. at Thirtieth.	1.00	....	2.00	....	....
LEXINGTON—500—Mich. Blvd. and Twenty-Second.	1.50 up	2.00 up	2.00 up	3.00 up	....
LUZERNE—100—Clark and Center.	1.00 up	....	1.50 up	....	....
MAJESTIC—300—Quincy, bet. State and Dearborn.	1.00 to 2.00	2.00 to 3.00	1.50 to 3.50	3.00 to 5.00	....
METROPOLE—300—Michigan Ave. and Twenty-Third.	1.50	2.50	2.00 up	3.00 up	....
MORAINE—250—Highland Park, Ill. 30 minutes from Chicago	1.50 up	....	2.00 up	3.00 to 5.00	....
NEW GAULT—200—Madison and Market.	1.00 to 1.50	2.00 to 2.50	1.50 to 2.00	3.00 to 3.50	....
NEW SOUTHERN—350—Mich. Blvd. and Thirteenth.	1.00 to 1.50	2.00	1.50 to 3.00	3.00 to 5.00	....
PALMER HOUSE—1,000—State and Monroe.	1.50 to 2.00	2.00 to 3.00	2.50 to 5.00	3.00 to 5.00	....
PARKWAY—250—Lincoln Park West and Garfield Ave.	....	....	2.50 to 3.50	3.50 to 5.00	6.00 to 8.00
PLANTERS—350—Clark and Madison.	1.50 up	....	....	....	....
PLAZA—600—N. Clark and North Ave.	....	....	1.50 to 3.00	2.00 to 3.50	3.00 to 6.00
PLYMOUTH—250—4700 Broadway, cor. Leland.	1.00	1.50	1.50 to 3.00	....	....
SARATOGA—700—23 to 29 S. Dearborn.	1.00	2.00	1.50	3.00	....
STOCK YARD INN—450—W. Forty-Second and S. Halsted Sts.	1.00 up	2.00 up	1.50 up	2.50 up	....
STRAND—300—Sixty-Third and Cottage Grove.	1.00 up	....	1.50 up	....	....
STRATFORD—500—Jackson and Michigan Blvd.	1.50	....	2.00 up	6.00 up	....
UNION—70—66-72 W. Randolph.	1.00 to 1.50	2.00 to 2.50	1.50 to 2.50	3.00 to 3.50	....
VIRGINIA—450—Rush and Ohio.	1.50 to 2.00	2.00 to 3.00	2.00 to 2.50	3.00 to 4.00	3.00 to 10.00
WARNER—350—Thirty-Third and Cottage Grove.	....	1.50	1.50 up	2.00 up	....
WASHINGTON—200—Washington St. between La Salle and Fifth Avenue.	1.50	3.00	1.50 to 2.00	3.00 up	....
WINDEMERE—300—Fifty-Sixth and Cornell Ave. (American Plan)	3.00	5.00	4.00 up	6.00 up	....
WINDSOR-CLIFTON—350—Wabash Ave. and Monroe.	1.00 up	1.50 up	2.00 up	3.00 up	....
WYCHMERE—200—Indiana Ave. and E. Eighteenth.	.75 up	1.25 up	1.00 up	1.50 up	....

* For definite information concerning rates and accommodations offered, write to the hotels.

MEETING PLACES AND HOTEL HEADQUARTERS

The following hotels have been designated as general and section headquarters for the Chicago Session, June 10 to 14:

General Headquarter: Hotel Sherman, North Clark and West Randolph.

Practice of Medicine: Hotel Morrison, 83 West Madison.

Surgery, General and Abdominal: Auditorium Hotel, 430 South Michigan.

Obstetrics, Gynecology and Abdominal Surgery: Congress Hotel, South Michigan and Congress.

Ophthalmology: Hotel LaSalle, LaSalle and West Madison.

Laryngology, Otology and Rhinology: Hotel LaSalle, LaSalle and West Madison.

Diseases of Children: Congress Hotel, South Michigan and Congress.

Pharmacology and Therapeutics: Auditorium Hotel, 430 South Michigan.

Stomatology: Congress Hotel, South Michigan and Congress.

Nervous and Mental Diseases: Blackstone Hotel, South Michigan and East Seventh.

Dermatology: Blackstone Hotel, South Michigan and East Seventh.

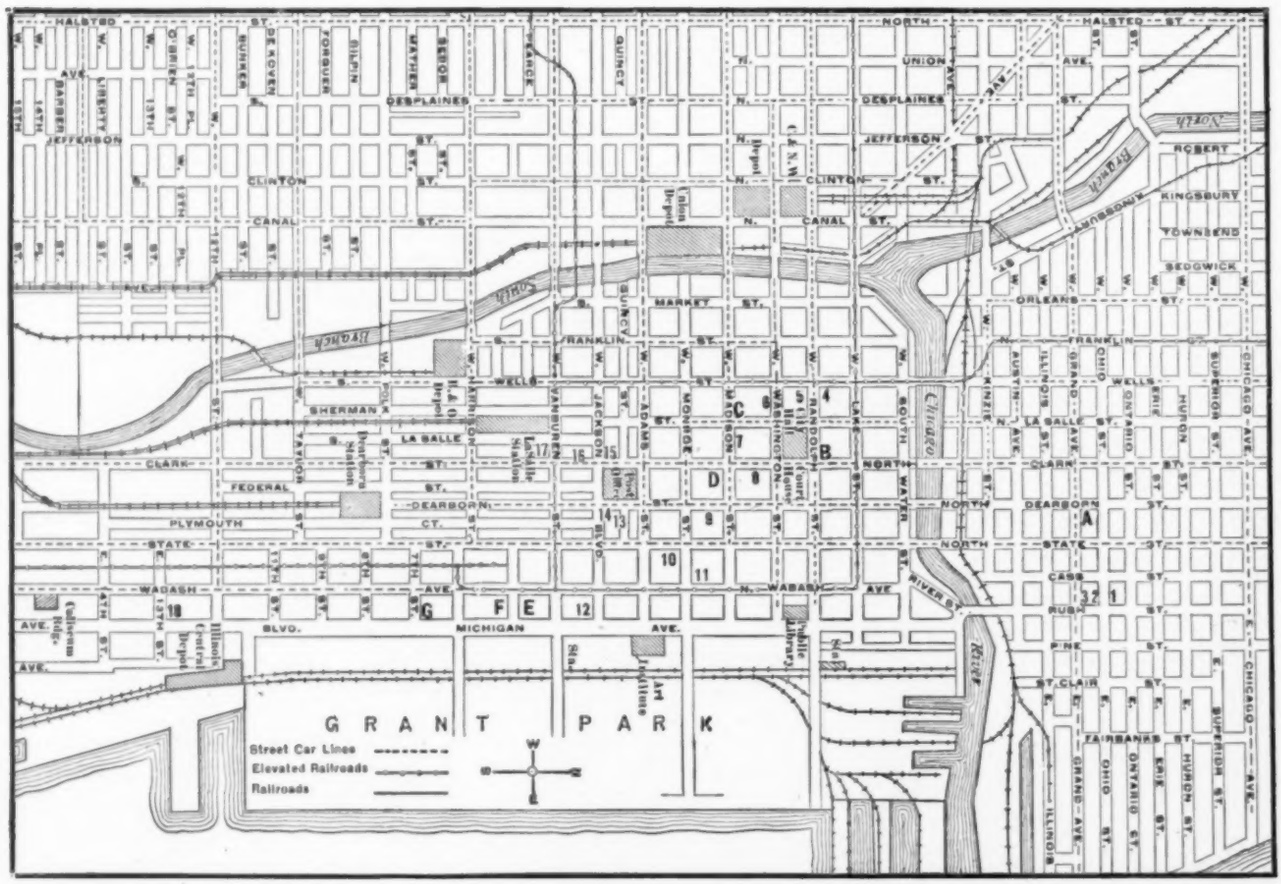
Preventive Medicine and Public Health: Auditorium Hotel, 430 South Michigan.

Genito-Urinary Diseases: Auditorium Hotel, 430 South Michigan.

Orthopedic Surgery: Congress Hotel, South Michigan and Congress.

Gastro-Enterology and Proctology: Auditorium Hotel, 430 South Michigan.

Scientific Exhibit, Registration Bureau, Commercial Exhibit, Information Bureau, and Branch Post-office: Hotel Sherman, North Clark and West Randolph.



A—American Medical Association Building, 535 N. Dearborn St., N. E. Cor. Grand Ave. and Dearborn St.

B—Hotel Sherman, N. W. Cor. Clark and Randolph Sts.

C—Hotel LaSalle, N. W. Cor. LaSalle and Madison Sts.

D—Morrison Hotel, 83 W. Madison St., S. E. Cor. Clark and Madison Sts.

E—Auditorium Hotel, 430 S. Michigan Blvd., N. W. Cor. Michigan Blvd. and Congress St.

F—Congress Hotel and Annex, S. W. Cor. Michigan Blvd. and Congress St.

G—The Blackstone, N. W. Cor. Michigan Blvd. and E. Seventh St.

1. Virginia Hotel, N. W. Cor. Rush and Ohio Sts.
2. Hotel Alexandria, 542 Rush St., S. W. Cor. Rush and Ohio Sts.
3. Hotel Bradley, 536 Rush St., N. W. Cor. Rush St. and Grand Ave.
4. Briggs House, 188 W. Randolph St., N. E. Cor. Wells and Randolph Sts.
5. Hotel Bismarck, 171 W. Randolph St., south side, between Wells and LaSalle Sts.
6. Hotel Washington, 167 W. Washington St., south side, between Wells and LaSalle Sts.
7. Hotel Brevoort, 120 W. Madison St., north side, between LaSalle and Clark Sts.
8. Hotel Planters, 19 N. Clark St., east side, between Washington and Madison Sts.
9. Saratoga Hotel, 23-29 S. Dearborn St., east side, between Madison and Monroe Sts.
10. Palmer House, S. E. Cor. State and Monroe Sts.
11. Windsor-Clifton Hotel, 39 S. Wabash Ave., N. W. Cor. Wabash Ave. and Monroe St.
12. Stratford Hotel, N. W. Cor. Jackson and Michigan Blvds.
13. Hotel Majestic, 29 Quincy St., south side, between State and Dearborn Sts.
14. Great Northern Hotel, Jackson, Quincy and Dearborn Sts., N. E. Cor. Dearborn St. and Jackson Blvd.
15. Grand Pacific Hotel, 232 S. Clark St., N. W. Cor. Clark St. and Jackson Blvd.
16. Hotel Atlantic, 316 S. Clark St., west side, near Jackson Blvd.
17. Fort Dearborn Hotel, 125 W. Van Buren St., S. E. Cor. LaSalle and Van Buren Sts.
18. New Southern Hotel, 1250 S. Michigan Ave., N. W. Cor. Michigan Blvd., and Thirteenth St.

REGISTRATION

The Importance of Registering Early—A Few Suggestions Which Will Facilitate Registration

The Bureau of Registration will be located in the Louis XVI Room, Sherman Hotel, Randolph and Clark Streets. A committee of local physicians will assist those desiring to register. A branch postoffice will be opened, and a bureau of information established in connection with the Registration Bureau.

Every one who registers will be required to fill out completely, except the blank space for the number, the spaces on both parts of the double registration cards, which will be found on the tables in front of the Registration Bureau. These entries should be written very plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*.

1. Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out registration card, together with their pocket card, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a copy of the official program and other printed matter of interest to those attending the annual session.

2. Those Fellows who have forgotten their pocket cards should present the filled in registration card at the window marked "Paid—No Card." The work of registration at this window will be conducted as rapidly as possible; but the necessity of finding the Fellow's name on the Fellowship roster will occupy time and will occasion inconvenience to those who neglect to bring their pocket cards with them.

3. The Fellow whose 1918 dues are unpaid should present his filled in registration card with the amount of his Fellowship dues ($5) at one of the windows marked "Cash." Here, too, there will be occasioned some delay; but the work of registering will be conducted as promptly as possible.

4. Subscribers and others desiring to qualify as Fellows should present a filled in registration card, together with a formal application for Fellowship at the window marked "New Fellows." These applications for Fellowship can be obtained at Window No. 1 of the Registration Bureau or from the members of the Committee on Registration. In order to qualify as a Fellow, the applicant must be officially reported as a member of the constituent association of the state in which he resides, and in addition to filing this formal application, he must pay his annual Fellowship dues for the current year; if already a subscriber to THE JOURNAL, with his subscription paid for a term to or beyond Jan. 1, 1919, no additional payment is necessary. If subscription is not paid in full for the current year, the payment of a sum to extend it to Jan. 1, 1919, is required.

The registration of new Fellows will be greatly facilitated if they will provide themselves with certificates of membership issued by the secretary of their state association, certifying to their membership in the state and county branches of the organization.

It will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than June 1. Any applications received later than June 1 will be given prompt attention, but the Fellowship certificate and pocket card may not reach the applicant in time so that he can use this card in registering at the Chicago session, and he may be required to make a second payment of his Fellowship dues, which must be held until the records at headquarters can be consulted after the close of the session, when any excess payment will be adjusted.

If, however, a member of the Association neglects to qualify as a Fellow before reaching Chicago, he may be entered as a Fellow at the meeting, as suggested above.

POSTOFFICE

An Association Postoffice will be maintained at the Registration Bureau in the Louis XVI Room, Sherman Hotel, Randolph and Clark Streets. Guests are requested to order mail addressed to them "Care American Medical Association, Sherman Hotel, Chicago," or to their hotels, as preferred.

CLINICS AT CHICAGO SESSION

Extensive preparation for clinics in connection with the Chicago session has been made. Clinics will be given every day for five days beginning Thursday, June 6, and ending Tuesday, June 11.

The Local Committee of Arrangements appointed the following committee on clinics: Charles E. Humiston, chairman; Karl E. Meyer, secretary; E. Wyllys Andrews, Daniel Eisendrath, Thomas L. Gilmer, Joseph B. DeLee, A. J. Ochsner, Wilbur E. Post, Hollis E. Potter and Bertram W. Sippy.

This supervising committee called to its assistance representatives of the various hospitals and medical educational institutions of Chicago. A subcommittee for each specialty was selected and in addition a special committee of one for each hospital was chosen who was made responsible for the clinics and demonstrations in his own particular institution.

These clinics are presented for the benefit of the members of the American Medical Association and there is no charge or fee of any kind for the privilege of attending any of them. The "Pocket Card" or other evidence of membership in the Association is the "ticket" of admission.

A comprehensive schedule has been prepared covering the entire field of medicine and surgery. All specialties will be represented in one or more hospitals every day of the entire five day period.

The preliminary publication in this issue is necessarily incomplete. Details and hours of each clinic will be published in ample time for the guidance of those who are interested.

Autopsies at the Cook County Morgue both morning and afternoon will be held every day.

In order that proper steps may be taken to care for the interests of all visiting fellows the committee wishes to ascertain in advance the probable attendance and accordingly requests those who contemplate attending these clinics to inform the chairman as soon as convenient.

ALEXIAN BROTHERS HOSPITAL, 1200 Belden Ave.—*General Surgery:* M. L. Harris, Wm. E. Hesser and A. Zimmerman. *Genito-Urinary:* L. Diamesis, Herman L. Kretschmer, L. E. Schmidt and E. White. *Eye, Ear, Nose and Throat:* J. Holinger. *Medicine:* H. Klein and A. Luckhardt. *Nervous and Mental:* A. B. T. Heym.

AUGUSTANA HOSPITAL, 2043 Cleveland Ave.—*General Surgery:* A. T. Lundgren, A. J. Ochsner and H. M. Percy. *Medicine:* Frank Smithies.

CHICAGO STATE HOSPITAL, Dunning Station.—*Nervous and Mental:* H. Douglas Singer.

CHICAGO POLICLINIC AND HOSPITAL, 221 W. Chicago Ave.—*General Surgery:* J. A. Graham, M. L. Harris, Wm. Hessert and C. C. Rogers. *Gynecology:* C. V. Bachelle. *Orthopedics:* E. W. Ryerson. *Eye, Ear, Nose and Throat:* C. H. Francis, Otto T. Freer, J. W. Mahoney and C. M. Robertson. *General Medicine:* J. F. Hultgen and E. S. Moore. *Tuberculosis:* O. W. McMichael. *Pediatrics:* Paul Grabow. *Stomach:* A. Heinen. *Obstetrics:* C. S. Bacon. *Genito-Urinary:* Robert H. Herbst.

THE CHICAGO FRESH AIR HOSPITAL, Cor. Howard and Western Ave.—*Tuberculosis:* Pneumothorax Treatment, Ethan Allen Gray.

CHILDREN'S MEMORIAL HOSPITAL, 735 Fullerton Ave.—*General Surgery:* Coleman G. Buford, John Graham and Robert O. Ritter. *Orthopedic:* Robert O. Ritter. *Eye, Ear, Nose and Throat:* David Fiske, Edwin Norcross and John Williams. *Medical:* Arthur Parmalee and Samuel J. Walker. *Infant Feeding:* George Edwin Baxter.

CHICAGO LYING-IN HOSPITAL, 426 E. 51st St.—*Obstetrics:* C. S. Bacon, J. B. DeLee, H. M. Stowe and Anna Lapham.

COOK COUNTY HOSPITAL, Harrison and Wood Sts.—*General Surgery:* E. Wyllys Andrews, Charles Davison, Frederick G. Dyas, Daniel N. Eisendrath, Charles E. Humiston, Harry Jackson, A. Belcham Keyes, Paul F. Morf, Arthur B. Rankin, Harry Richter, Lawrence Ryan, Victor

L. Schrager, Geo. F. Thompson, Roger T. Vaughan and John A. Wolfer. *Gynecology:* Mary McEwen, H. M. Stowe, Bertha VanHoosen and Wesley J. Woolston. *Orthopedics:* Charles M. Jacobs, Charles A. Parker and Henry B. Thomas. *Eye, Ear, Nose and Throat:* Joseph C. beck, G. W. Boot, E. V. L. Brown, J. W. Clark, Charles G. Darling and Robert Sonnenschein. *Genito-Urinary:* Frederick G. Harris, Ernest L. McEwen and Arthur W. Stillians. *Medicine:* Arrie Bamburger, Arthur F. Beifeld, Wm. J. Butler, Leon Bloch, James G. Carr, Harry B. Culver, W. W. Dicker, A. A. Goldsmith, Karl K. Koessler, Ludwig M. Loeb, M. Milton Portis, Joseph M. Patton, S. R. Slaymaker, Frederick Tice and Theodore Tieken. *Nervous and Mental:* Julius Grinker, George W. Hall, George B. Hassin and Sigmund Krumholz. *Tuberculosis:* Max Beisenthal, Frank Chauvet, J. F. Hultgen, Maurice Lewison, Wm. Ed. Putz, Katherine B. Rich and Isadore M. Trace. *Pediatrics:* May Michaels and August Strauch. *Obstetrics:* Frederick O. Bowe, Frederick H. Falls and Otto H. Rohrlack. *Pathology:* D. J. Davis, Ludvig Hektoen, E. R. LeCount, J. Simonds and H. Gideon Wells. *Contagious Diseases:* Maurice Blatt, Archibald L. Hoyne and H. E. Irish. *Oral Surgery:* Louis Schults and Herbert Potts.

FRANCES WILLARD HOSPITAL, 710 S. Lincoln St.—*General Surgery:* Hugh N. MacKechnie, Lawrence Ryan, V. L. Schrager and Allen Stewart. *Eye, Ear, Nose and Throat:* W. D. Brode and L. B. Phelps. *General Medicine:* Wm. J. Butler and V. L. Sheets. *Stomach:* M. H. Mack. *Roentgen Ray:* B. H. Orndoff. *Oral Surgery:* T. W. Brophy.

HAHNEMANN HOSPITAL, 2814 Ellis Ave.—*Surgery:* H. R. Chislett and Chas. E. Kahlke.

HOME FOR DESTITUTE CRIPPLED CHILDREN, 1653 Park Ave.—*Surgery:* Ed. McGinnis. *Orthopedic:* Wallace Blanchard and Chas. A. Parker.

THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY, 904 W. Adams St.—*Eye:* W. A. Barr, Robt. H. Buck, David Evans, Michael Goldenberg, Louis G. Hoffman, Arthur P. Hunneman, Michael Lebensohn, Dwight C. Orcutt, Nils E. Remmen and Robert Vonder Heydt. *Ear:* Henry R. Boettcher, James R. Davey, S. M. Hager, Alfred Lewy and W. K. Spiece.

ILLINOIS CENTRAL HOSPITAL, 5744 Stoney Island Ave.—*General Surgery:* E. J. Hoglund, L. L. Iseman and T. H. Kelly. *Gynecology:* Wm. Cuthbertson. *Eye, Ear, Nose and Throat:* Geo. J. Musgrave and R. J. Tivnen. *General Medicine:* W. T. Harsha. *Roentgen Ray:* B. C. Cushway.

MERCY HOSPITAL, 2537 Prairie Ave.—*General Surgery:* E. Wyllys Andrews, John F. Golden, G. W. Hochrein, P. H. Kreuscher, M. F. McGuire, E. L. Moorhead, Wm. E. Morgan, F. E. Pierce and C. F. Sawyer. *Eye, Ear, Nose and Throat:* G. T. Jordan, G. J. Musgreaves and R. J. Tivnen. *Genito-Urinary:* V. D. Lespinasse. *Medicine:* C. P. Caldwell, J. G. Carr, A. C. Kleutgen, J. M. Lillie, W. G. McGuire and F. Wright. *Nervous:* Julius Grinker. *Gynecology:* W. S. Barnes and W. J. Jeffries. *Pediatrics:* Robt. A. Black and T. J. Sullivan, Jr.

MICHAEL REESE HOSPITAL, 29th and Ellis Ave.—*General Surgery:* E. Wyllys Andrews, Geo. Davenport, Daniel N. Eisendrath, E. Friend and A. A. Straus. *Gynecology:* Emil Ries and L. Frankenthal. *Eye, Ear, Nose and Throat:* Ira Frank and H. Kahn. *Genito-Urinary:* Daniel N. Eisendrath and Gustav Kolischer. *General Medicine:* A. R. Edwards, E. L. Schram, Solomon Strouse and Frank Wright. *Pediatrics:* I. A. Abt and E. Lackner. *Nervous and Mental:* Archibald Church.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, 2431 S. Dearborn St.—*Nervous and Mental:* Hugh T. Patrick.

NORWEGIAN DEACONESS HOSPITAL, 1138 N. Leavitt St.—*General Surgery:* J. R. Ballinger, Svening Dahl, J. V. Fowler, E. E. Henderson and A. Holmboe.

NORTH CHICAGO HOSPITAL, 2551 N. Clark St.—*General Surgery:* Carl Beck, Emil Beck and B. Katz. *Ear, Nose and Throat:* Joseph Beck and H. L. Pollock. *Roentgen Ray:* Paul Eisen.

PASSAVANT HOSPITAL, 149 W. Superior St.—*Surgery:* E. J. Brougham, Aime Paul Heineck, Frank R. Morton, Carl G. Swenson, O. J. Waters and A. G. Wermuth.

PROVIDENT HOSPITAL (colored), 16 W. 36th St.—*General Surgery:* Geo. C. Hall. *Gynecology:* Bertha Van Hoosen. *Eye, Ear, Nose and Throat:* H. R. Smith and E. S. Stewart. *Genito-Urinary:* Albert E. Mowry. *Nervous and Mental:* Albert B. Yudelson. *Pediatrics:* Mark Jampolis and G. W. Prince. *General Medicine:* A. Wilberforce Williams. *Obstetrics:* E. R. Cornell. *Roentgen Ray:* C. D. Bell.

POST GRADUATE MEDICAL SCHOOL, 2400 S. Dearborn St.—*General Surgery:* C. J. Drueck, Chas. Frazier, W. J. Marvel, A. W. McNealy, J. C. Salyers and W. J. Sullivan. *Gynecology:* W. F. Dickson, H. L. Meyers, Emil Ries and Henry Scott. *Orthopedics:* R. W. Hardon. *Eye, Ear, Nose and Throat:* M. M. Jones, C. W. Hawley, A. Duncan, E. P. Norcross, Chas. Long, I. Sher, L. E. Schwarz, O. J. Stein and Robt. Sonnenschein. *Genito-Urinary:* Gustav Kolischer and Walter Venn. *Medicine:* F. B. Kirby, Harry Meissler, H. W. Traub, A. A. Jamieson and N. C. Gilbert. *Nervous and Mental:* Julius Grinker. *Pediatrics:* Robt. A. Black, O. J. Rabe and F. B. Combs. *Stomach:* A. A. Goldsmith. *Skin:* P. F. Shaffner.

PRESBYTERIAN HOSPITAL, 1753 W. Congress St.—*General Surgery:* Arthur Dean Bevan and Carl B. Davis. *Gynecology:* J. C. Webster and N. S. Heaney. *Eye, Ear, Nose and Throat:* Wm. H. Wilder and Geo. E. Shambaugh. *Genito-Urinary:* Herman L. Kretschmer and Robert Herbst. *Medicine:* J. B. Herrick, B. W. Sippy and W. E. Post. *Nervous and Mental:* Thor Rothstein and Peter Bassoe. *Pediatrics:* Walter Hoffmann. *Skin:* O. S. Ormsby.

PSYCHOPATHIC HOSPITAL, Wood and Polk Sts.—*Nervous and Mental:* Herman M. Adler, Geo. W. Hall, G. B. Hassin, Julius Grinker, Julius Retinger and Sydney Kuh.

RAVENSWOOD HOSPITAL, 1917 Wilson Ave.—*General Surgery:* G. N. Bussey, Clark A. Buswell, G. W. Green, W. W. Mueller, A. G. Schroeder and J. J. Toeller. *Medicine:* Geo. Edwin Baxter and Josiah J. Moore.

RUSH MEDICAL COLLEGE.—*Nervous and Mental:* James C. Gill and Thor Rothstein. *Genito-Urinary:* Robert H. Herbst.

ST. LUKE'S HOSPITAL, 1439 S. Michigan Ave.—*General Surgery:* E. Wyllys Andrews and L. L. McArthur. *Gynecology:* E. C. Dudley and L. E. Frankenthal. *Orthopedics:* J. L. Porter. *Eye, Ear, Nose and Throat:* F. Allport, Paul Guilford, G. P. Marquis and E. P. Norcross. *General Medicine:* A. R. Elliott and R. B. Preble. *Nervous and Mental:* A. Church. *Pediatrics:* F. X. Walls. *Obstetrics:* C. E. Paddock. *Oral Surgery:* T. L. Gilmer.

ST. BERNARD'S HOSPITAL, 6337 Harvard Ave.—*General Surgery:* J. C. Belson, W. H. Bohart, Carl Christoph, O. E. Christoph, G. M. Cushing, J. C. Hepburn, Henry Hoffman, J. B. Hacherlin, W. J. Hurley, Frederick Lofton, J. T. Meyers and Jacobson. *Eye, Ear, Nose and Throat:* Austin A. Hayden .

ST. JOSEPH'S HOSPITAL, 2100 Burling St.—*General Surgery:* Wm. Hessert and Carl Wagner. *Gynecology:* Wallace Grosvenor. *Eye, Ear, Nose and Throat:* John B. Ellis, Austin Hayden, J. Holinger and J. Z. Bergeron. *Roentgen Ray:* Isadore Trostler. *Oral Surgery:* Truman Brophy.

WESLEY HOSPITAL, 2449 S. Dearborn St.—*General Surgery:* H. M. Richter, Wm. E. Schroeder, W. E. Shackleton and John A. Wolfer. *Gynecology:* Mark T. Goldstine. *Ear:* J. Gordon Wilson. *Medicine:* Achilles Davis, Chas. A. Elliott, N. C. Gilbert, A. A. Goldsmith, C. P. Horner and L. J. Osgood. *Obstetrics:* Charles B. Reed.

THE UNIVERSITY HOSPITAL, Ogden Ave., Congress and Lincoln Sts.—*General Surgery:* Charles Davison. *Orthopedics:* Edwin W. Ryerson. *Eye, Ear, Nose and Throat:* E. V. L. Brown and Wm. E. Gamble. *Genito-Urinary:* Harry Culver. *Medicine:* Ed. L. Heintz. *Pediatrics:* Henry E. Irish. *Obstetrics:* Chas. S. Bacon.

WASHINGTON BOULEVARD HOSPITAL, 2449 Washington Blvd.—*Surgery:* B. F. Lounsbury.

WEST SUBURBAN HOSPITAL, Ontario St. and Austin Ave., Oak Park (City limits, West).—*General Surgery:* Chas. E. Humiston.

WEST SIDE HOSPITAL, 1844 W. Harrison St.—*General Surgery:* E. M. Brown, T. A. Davis, Paul Gronnerud, C. C. O'Byrne and Geo. F. Thompson. *Gynecology:* A. N. Claggett and J. M. Lang. *Eye, Ear, Nose and Throat:* James A. Clark and Wm. L. Noble. *Genito-Urinary:* John S. Nagel. *General Medicine:* W. L. Callaway. *Nervous and Mental:* C. N. King. *Skin:* K. A. Zurawski and Robt. A. Sempill.

AMERICAN MEDICAL GOLFING ASSOCIATION

The fourth tournament of the American Medical Golfing Association will be held on June 10 at the Glenview Golf Club. The following members of the local committee and section captains will be in charge of the entertainment: Section on Surgery—Arthur Bevan; Section on Practice of Medicine—John Dodson; Section on Surgery, Gynecology and Obstetrics—Thomas Watkins; Section on Dermatology—William Pusey; Section on Ophthalmology— Frank Brawley; Eye, Ear, Nose and Throat Section—Frederick Menge; Section on Pediatrics—Henry Helmholtz; Section on Orthopedics—Edwin Ryerson; Section on Pathology—Gideon Wells. Fellows of the American Medical Association who wish to enter the tournament should communicate without delay with the secretary, Dr. Will Walter, 1414 Chicago Avenue, Evanston, Ill. Visiting foreign surgeons are invited to attend the tournament.

MEETINGS FOR WOMEN PHYSICIANS

SUNDAY AFTERNOON, JUNE 9, 3 p. m., a tea at the South Shore Country Club.

TUESDAY, JUNE 11, 12 m.-1 p. m., assembly room of the Chicago College Club, Dr. Mabel S. Ulrich of Minneapolis will speak on social hygiene.

WEDNESDAY, JUNE 12, 5:30 p. m. Banquet for medical women at La Salle Hotel.

Headquarters

Headquarters have been engaged at the Chicago College Club in the Stevens' Building. Luncheon and supper will be served in the club; there are reception and rest rooms; our guests can have their mail forwarded here, receive their friends, get telephone messages and rest between sessions.

Reservations

The Medical Women's Committee (Dr. Clara P. Seippel, chairman, 25 East Washington Street, Chicago) will be glad to be of service to women physicians who attend the convention. An entire floor of rooms has been reserved at the Hotel La Salle. They request that every medical woman who intends to be in Chicago from June 6 to 14 send them her name, address while in the city, and time of arrival, so that she may be notified of any gatherings.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will occupy the mezzanine floor of Hotel Sherman. This is in direct contact with the general headquarters and the commercial exhibit, and is easily accessible to the visiting physicians. The exhibits promise to be unusually interesting as there are several of special military interest. In connection with many of the exhibits frequent demonstrations by especially qualified persons will be provided. One gold and two silver medals and several certificates of merit will be awarded for the exhibits which are adjudged most worthy. The following exhibits have already been arranged for:

DR. V. D. LESPINASSE, Chicago, Ureteral Stone—pictures, slides and specimens.

DR. DANIEL N. EISENDRATH, Chicago—1. Experimental effects of cholecystectomy. 2. Anatomy of common duct region. 3. Specimens of kidney surgery.

DR. LEIGH F. WATSON, Chicago—Experimental studies of goiter, specimens, photographs and photomicrographs.

DR. HENRY F. SMYTH, Laboratory of Hygiene, University of Pennsylvania—Industrial Dust—charts, photographs and museum specimens.

DR. ALFRED A. STRAUSS, Chicago—Stomach and intestinal surgery—operation for sterility in male.

DR. HIDEYO NOGUCHI, Rockefeller Institute, New York—Spirochaeta of infectious jaundice.

DR. EMIL G. BECK, Chicago—Stereoscopic roentgenographs illustrating localization of foreign bodies and lung abscess.

PRUDENTIAL LIFE INSURANCE COMPANY OF AMERICA, Newark, N. J.—Malaria eradication and control.

MAYO FOUNDATION, Rochester, Minn.—Selected exhibit.

MARY THOMPSON HOSPITAL, Chicago—Anesthetic cap and berthe, delivery bed, bedside cabinet, examining glove, hospital window and pictures.

FORT RILEY SANITARY LABORATORY, Fort Riley, Kan.—Army sanitation—fifty models of Army sanitary apparatus.

THE AMERICAN RED CROSS—Red Cross surgical dressings, etc.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC HEALTH—Mechanical and still models, cartoons, etc.

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF ANIMAL INDUSTRY—Specimens of disease in food animals.

DR. MORTIMER FRANK, Chicago—Historic medical books, original letters and pictures.

DR. DAVID J. DAVIS, Chicago—Sporotrichosis—specimens, cultures, pictures.

It is expected that other medical activities of the war than those mentioned will be illustrated, but announcements cannot be definitely made at this time.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF OPENING MEETING

AUDITORIUM THEATER

Tuesday, June 11, 8:30 p. m.

Music.

Call to Order by the President, DR. CHARLES H. MAYO, Rochester, Minn.

Invocation. JOHN TIMOTHY STONE, D.D., Chicago.

Announcements. DR. LUDVIG HEKTOEN, Chairman of the Local Committee of Arrangements.

Address of Welcome. DR. E. B. COOLEY, Danville, President of the Illinois State Medical Society.

Address of Welcome. DR. CHARLES E. HUMISTON, Chicago, President of the Chicago Medical Society.

Address. HON. FRANK O. LOWDEN, Governor of Illinois.

Music.

Introduction and Installation of President-Elect ARTHUR DEAN BEVAN, Chicago.

Address. DR. ARTHUR DEAN BEVAN.

Music.

GENERAL MEETING, WEDNESDAY EVENING

Military Meeting

Plans are being perfected for a general meeting to be held on Wednesday evening, June 12, at 8:30, at which representatives of the Medical Corps of our allied nations, together with other distinguished medical guests, will speak on medical war problems.

THURSDAY EVENING MEETING

Patriotic Meeting

A general popular patriotic war meeting will be held in the Auditorium Theater on Thursday evening at 8:30, when distinguished citizens of Chicago will present the appeal of the United States in the present war from the viewpoint of loyal citizenship.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings — The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program nor is the list complete. The Official Program will be a pamphlet similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, also lists of committees, programs of the General Meeting and of the meetings of the House of Delegates, lists of entertainments, map of Chicago and other information. To prevent misunderstandings and to protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

SECTION ON MISCELLANEOUS TOPICS

MEETS IN AUDITORIUM THEATER

OFFICERS OF SECTION

Chairman—FRANK BILLINGS, Chicago
Vice Chairman—JAMES BORDLEY, JR., Baltimore.
Secretary—HARRY E. MOCK, Chicago.

Thursday, June 13—9 a. m.

1. Opening Address.
   WILLIAM C. GORGAS, Washington, D. C.
2. Chairman's Address: The National Program for the Reconstruction and Rehabilitation of the Disabled Soldiers. FRANK BILLINGS, Chicago.
3. Reconstruction and Rehabilitation Problems as Demonstrated by Experience in Foreign Countries.
   CASEY A. WOOD, Chicago.
4. The Surgeon-General's Plans for the Receiving and Transporting and Distributing of the Disabled from Overseas. ROBERT E. NOBLE, Washington, D. C.
5. Acute Surgery as Related to Reconstruction.
   MAJOR G. SEELIG, St. Louis.
   Discussion to be opened by DAVID SILVER, Pittsburgh.

6. Medical Reconstruction of Disabled Soldiers—War Neuroses. PEARCE BAILEY, New York.
7. Reeducation of the Deaf and Speech Defective. CHARLES W. RICHARDSON, Washington, D. C.
8. Reeducation of the War Blinded JAMES BORDLEY, JR., Baltimore, Md.

Thursday, June 13—2 p. m.

The Reconstruction of the Canadian Crippled Soldiers and Results.

9. The Conservation and Reclamation of the Industrial Soldiers: A War Measure. HARRY E. MOCK, Chicago.

Experiences in Reeducation and Vocational Training of the Disabled Soldiers.

10. The Results of Rehabilitation in Foreign Countries (Lantern Demonstration). DOUGLAS C. MCMURTRIE, New York.
11. What Is to Become of the Reconstructed Soldier in Civil Life? In Trades. In Professions. Social and Economic Supervision of the Rehabilitated Soldiers. ERNEST P. BICKNELL, Washington, D. C.
12. "The Way Out": Educational Propaganda for the Disabled Soldiers and for the Public (Illustrated by Motion Pictures). ARTHUR H. SAMUELS, Washington, D. C., and MICHAEL J. DOWLING, Olivia, Minn.

SECTION ON PRACTICE OF MEDICINE

MEETS IN BANQUET ROOM, HOTEL MORRISON

OFFICERS OF SECTION

Chairman—LAWRENCE LITCHFIELD, Pittsburgh.
Vice Chairman—A. W. HEWLETT, San Francisco.
Secretary—JAMES S. MCLESTER, Birmingham, Ala.
Executive Committee—THOMAS MCCRAE, Philadelphia; ROGER S. MORRIS, Cincinnati; HENRY A. CHRISTIAN, Boston.
(Stenographer—DR. W. W. BELLAMY, Boston)

Wednesday, June 12—9 a. m.

1. Chairman's Address: Dextrose Intravenously as a Therapeutic Agent. LAWRENCE LITCHFIELD, Pittsburgh.
2. War and Medical Education. HORACE D. ARNOLD, Boston.
3. Further Studies in the Treatment of Acute Poliomyelitis with Immune Horse Serums EDWARD C. ROSENOW, Rochester, Minn.
4. Pulmonary Compression Signs Associated with Fibrinous Pericarditis. HENRY A. CHRISTIAN, Boston
5. On Ulceration of the Soft Palate Resembling Syphilitic Perforating Ulcer Due to Fusiform Bacilli and Spirillae (Vincent's Angina). SYDNEY R. MILLER, Baltimore.

Discussion to be opened by ROGER S. MORRIS, Cincinnati, and FRANK J. SLADEN, Detroit.

6. The Complications of Cerebrospinal Meningitis and Their Treatment. WILLIAM W. HERRICK, New York.

Wednesday, June 12—2 p. m.

7. Measles in the Army Camp.
8. Report on Cases of Cerebrospinal Meningitis (Epidemic) Observed at General Hospital No. 6, Fort McPherson, Ga. CHARLES N. B. CAMAC, New York, and KARL M. BOWMAN, White Plains, N. Y.
9. Neurocirculatory Asthenia. WILLIAM H. ROBEY, JR., Boston.
10. The Training of the Medical Officers in the Army. WILLIAM N. BISPHAM, Fort Riley, Kan.
11. The Significance of Presystolic Thrills in the Examination of Recruits. ROGER S. MORRIS and ALFRED FRIEDLANDER, Cincinnati.
12. Newer Aspects of Digitalis Therapy. JOSEPH H. PRATT, Boston.

Discussion to be opened by ALFRED E. COHN, Washington, D. C., and GEORGE CANBY ROBINSON, St. Louis.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

SYMPOSIUM ON PNEUMONIA

13. A Clinical Study of Eight Hundred Cases of Pneumonia. WILLARD J. STONE, Toledo, Ohio.
14. Unique Findings Gathered from the Observation of Eleven Hundred Cases of Pneumonia in a Base Hospital. ARTHUR A. SMALL, Chicago.
15. An Epidemic of Streptococcus Pneumonia and Empyema at Camp Dodge. JOSEPH L. MILLER and FRANK B. LUSK, Chicago.
16. Streptococcus Pneumonia. JAMES G. CUMMING, Ann Arbor, Mich.
17. The Pathology of the Pneumonia of the Army Camp. WILLIAM G. MACCALLUM, Baltimore.
18. Practical Consideration of Epidemiology Drawn from a Classification of Streptococci. RALPH A. KINSELLA, St. Louis.

Discussion to be opened by ERNEST E. IRONS, Chicago; RUFUS I. COLE, New York; BRUCE G. PHILLIPS, New York; WALTER P. BLISS, New York; HUGH MCKENNA, Chicago, and GEORGE F. DICK, Chicago.

Friday, June 14—2 p. m.

19. Acute Mastoiditis as a Complication of Infectious Diseases. GEORGE H. LATHROPE, Morristown, N. J.

Discussion to be opened by WILLIAM H. ROBEY, JR., Boston, and ROBERT H. FOWLER, New York.

20. The Prevention and Control of Contagious Diseases. JOSEPH A. CAPPS, Chicago.
21. Later Results of the Intraspinous Treatment of Cerebrospinal Syphilis, Based on Four Years' Observation. CLYDE L. CUMMER, Cleveland, and RICHARD DEXTER, Toledo, Ohio.

Discussion to be opened by JOHN A. FORDYCE, New York.

22. A Study of Diaphragmatic Movements in Acute Abdominal Inflammations. LLEWELLYN SALE, St. Louis.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN AUDITORIUM THEATER

OFFICERS OF SECTION

Chairman—E. STARR JUDD, Rochester, Minn.
Vice Chairman—ROBERT C. COFFEY, Portland, Ore.
Secretary—EUGENE H. POOL, New York.
Acting Secretary—GEORGE P. MÜLLER, Philadelphia.
Executive Committee—CHARLES H. PECK, New York; E. WYLLYS ANDREWS, Chicago; WILLIAM D. HAGGARD, Nashville, Tenn.
(Stenographer—Mrs. M. C. REPP, Philadelphia)

Wednesday, June 12—9 a. m.

1. Chairman's Address. E. STARR JUDD, Rochester, Minn.
2. Congenital Cleft Palate and Harelip. TRUMAN W. BROPHY, Chicago.

Discussion to be opened by A. J. OCHSNER, Chicago.

3. The Principles of Thyroid Surgery. CHARLES H. MAYO, Rochester, Minn.
4. Temporary Loss of Voice Following Thyroidectomy. DONALD GUTHRIE, Sayre, Pa.
5. Goiter in the Southeast. EDWARD G. JONES, Atlanta, Ga.

Discussion on the foregoing papers by CHARLES H. FRAZIER, Philadelphia; STUART MCGUIRE, Richmond, Va.; EMIL GOETSCH, Baltimore, and GORDON B. NEW, Rochester, Minn.

6. On Glycophilia. WILLY MEYER, New York.

Discussion to be opened by LEO BUERGER, New York.

Wednesday, June 12—2 p. m.

7. Reconstruction of the Common Duct from the Experimental Standpoint.
J. SHELTON HORSLEY, Richmond, Va.
Discussion to be opened by WILLIAM J. MAYO, Rochester, Minn, and W. W. MATTSON, Tacoma, Wash.
8. Clinical Report on Reconstruction of the Common and Hepatic Ducts. LEGRAND GUERRY, Columbia, S. C.
Discussion to be opened by JAMES F. MITCHELL, Washington, D. C., and STUART MCGUIRE, Richmond, Va.
9. Rôle of the Cystic Duct in Recurring Cholecystitis.
J. EARL ELSE, Portland, Ore.
Discussion to be opened by ALLEN B. KANAVEL, Chicago.
10. Traumatic Pancreatic Cysts.
JOHN A. HARTWELL, New York.
Discussion to be opened by GEORGE D. STEWART, New York.
11. Chronic Pancreatitis Associated with Cholecystitis and Cholelithiasis. ALLEN O. WHIPPLE, New York.
12. The Ultimate Results in Cases of Chronic and Subacute Pancreatitis.
EDWARD W. ARCHIBALD, Montreal Canada.
Discussion on the foregoing two papers will be opened by JOHN B. DEAVER, Philadelphia.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

13. The Therapeutics of Tetanus.
HERMANN B. GESSNER, New Orleans.
Discussion to be opened by A. P. C. ASHHURST, Philadelphia.
14. Treatment of Suppurative Arthritis by Irrigation and by Staining with Gentian Violet.
JOHN W. CHURCHMAN, New Haven, Conn.
Discussion to be opened by GEORGE P. MÜLLER, Philadelphia, and WALTON MARTIN, New York.
15. The Use of Dichloramin-T and Other Antiseptics in War Surgery. W. ESTELL LEE, Philadelphia.
16. The Hodgen Extension Suspension Splint and Its Exemplication in Both Civil and War Surgery.
FRANK G. NIFONG, Columbia, Mo.
17. A Method for the Relief of Medullary Pressure in Fracture of the Skull. JOHN E. JENNINGS, Brooklyn.
18. The Fall of the Alkaline Reserve Under Surgical Conditions: Its Effects and Prevention.
HOWARD W. HAGGARD, New Haven, Conn.
Discussion to be opened by CARL WIGGERS, New York.

Friday, June 14—2 p. m.

19. The Bearing of Hypertonic Sphincters on the Surgery of the Alimentary Tract.
EDWARD MARTIN, Philadelphia.
20. Duodenal Fistula and Its Treatment.
DANIEL FISKE JONES, Boston.
Discussion to be opened by E. STARR JUDD, Rochester, Minn.
21. Gastroptosis: Its Cause, Prevention and Care, with Special Reference to the Duret-Rovsing Operation.
GEORGE N. KREIDER, Springfield, Ill.
Discussion to be opened by CARL E. BLACK, Jacksonville, Ill.
22. A New Principle in the Surgical Treatment of Brain Tumors. ARTHUR C. STRACHAUER, Minneapolis.
Discussion to be opened by CHARLES H. FRAZIER, Philadelphia.
23. Kondoléon's Operation.
WALTER E. SISTRUNK, JR., Rochester, Minn.
Discussion to be opened by RUDOLPH MATAS, New Orleans, and CARL B. DAVIS, Chicago.
24. End-Results in Hodgkin's Diseases.
RALPH E. MORTER, Milwaukee.
Discussion to be opened by CHARLES H. BUNTING, Madison, Wis.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN GOLD ROOM, CONGRESS HOTEL

OFFICERS OF SECTION

Chairman—BROOKE M. ANSPACH, Philadelphia.
Vice Chairman—ROLAND E. SKEEL, Cleveland.
Secretary—SIDNEY A. CHALFANT, Pittsburgh.
Executive Committee—THOMAS S. CULLEN, Baltimore; EDWARD REYNOLDS, Boston; HOWARD W. LONGYEAR, Detroit.
(Stenographer—Miss LIDIE C. ALEXANDER, Philadelphia)

Wednesday, June 12—9 a. m.

1. Chairman's Address: Enterostomy and Enterocolostomy in the Treatment of Intestinal Obstruction Following Pelvic Operations.
BROOKE M. ANSPACH, Philadelphia.
2. The Clinical Observations and Results of the Newer Methods of Operations in Congenital Pyloric Stenosis and Gastric and Duodenal Ulcers (Lantern Demonstration). ALFRED A. STRAUSS, Chicago.
3. Hypertrophic Pyloric Stenosis in Infancy (Lantern Demonstration).
WILLIAM D. HAGGARD, Nashville, Tenn.
Discussion to be opened by FRANK X. WALLS and WELLER VAN HOOK, Chicago.
4. The Relation of Anomalies of the Bile Ducts and Blood Vessels to Accidents in Biliary Surgery.
DANIEL N. EISENDRATH, Chicago.
5. Secondary Tuberculous Peritonitis.
WILLIAM J. MAYO, Rochester, Minn.
Discussion to be opened by ALBERT J. OCHSNER, Chicago.
6. Abdominal Visceropexy: An Original Method With a Report of Cases. J. RIDDLE GOFFE, New York.
Discussion to be opened by C. A. L. REED, Cincinnati.
7. The Use of the Rubber Band in Abdominal Surgery.
JOHN W. KEEFE, Providence, R. I.

Wednesday, June 12—2 p. m.

8. Goiter in Pregnancy (Lantern Demonstration).
LEIGH F. WATSON, Chicago.
Discussion to be opened by JAMES W. MARKOE, New York.
9. Extending the Care of Pregnancy.
ISADORE L. HILL, New York.
Discussion to be opened by BARTON COOKE HIRST, Philadelphia.
10. Uterine Inertia: Summary of a Series of Cases.
PAUL TITUS, Pittsburgh.
Discussion to be opened by RUDOLPH W. HOLMES, Chicago.
11. The Use and Abuse of Pituitary Solution.
GEORGE W. KOSMAK, New York.
Discussion to be opened by J. B. DE LEE, Chicago.
12. Pus in the Female Pelvis: A Surgical Retrospect.
JOHN YOUNG BROWN, St. Louis.
13. Rectal Section for Pelvic Abscess (Lantern Demonstration). HARRY P. RITCHIE, St. Paul.
14. Parotitis Following Induced Abortion in a Case of Pernicious Vomiting in Pregnancy.
W. P. MANTON, Detroit.
Discussion to be opened by W. A. N. DORLAND, Chicago.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

15. How Surgeons Can Help Win the War.
FRANKLIN H. MARTIN, Chicago.
16. The Question of Operation in Abdominal Gunshot Injuries.
JOSEPH RILUS EASTMAN, Indianapolis.
17. Experience with Thirty-Five Cases of Gunshot Wounds of the Abdomen in 1917 at the Memphis General Hospital. MAX GOLTMAN, Memphis, Tenn.
Discussion to be opened by GEORGE L. HAYS, Pittsburgh.

18. Avoidable Traumatic Abdomen.
JOHN B. DEAVER, Philadelphia.
Discussion to be opened by THOMAS J. WATKINS, Chicago.

19. Treatment of Incisional Ventral Hernia by the Transplantation of Fascia Lata (Lantern Demonstration).
WILLARD BARTLETT, St. Louis.
Discussion to be opened by ARTHUR T. MANN, Minneapolis.

20. Short Circuiting Operations in Abdominal Surgery.
ALEXIUS MCGLANNAN, Baltimore.

21. Infantilism and Other Hypoplastic Conditions of the Uterus (Lantern Demonstration).
EMIL NOVAK, Baltimore.
Discussion to be opened by WILLIAM P. GRAVES, Boston.

Friday, June 14—2 p. m.

22. Paravertebral Anesthesia, with Report of One Hundred Cases. NATHANIEL R. MASON and FRANK C. W. KONRAD, Boston.
Discussion to be opened by JOHN OSBORNE POLAK, Brooklyn.

23. Age of Menopause: Observations Based on Statistical Data of Eight Hundred Menopause Cases.
K. I. SANES, Pittsburgh.
Discussion to be opened by CURTIS S. FOSTER, Pittsburgh.

24. The Pathology of Hemorrhagic Myomas and Their Relation to Sarcoma (Lantern Demonstration).
ARTHUR E. HERTZLER, Kansas City.
Discussion to be opened by THOMAS S. CULLEN, Baltimore.

25. The Radical Treatment of Cancer of the Cervix by Igni Extirpation (Lantern Demonstration).
EDWARD A. WEISS, Pittsburgh.
Discussion to be opened by ALBERT GOLDSPOHN, Chicago.

26. The Conservation of Ovaries After Hysterectomy: With a New Technic of Extirpation of the Uterus.
GEORGE GELLHORN, St. Louis.
Discussion to be opened by HENRY T. BYFORD, Chicago.

27. Plastic Operations in the Vagina and on the Pelvic Floor.
STEPHEN E. TRACY, Philadelphia.
Discussion to be opened by HORACE G. WETHERILL, Denver.

SECTION ON OPHTHALMOLOGY

MEETS IN GRAND BALL ROOM, HOTEL LA SALLE

OFFICERS OF SECTION

Chairman—ALEXANDER DUANE, New York.
Vice Chairman—F. PHINIZY CALHOUN, Atlanta, Ga.
Secretary—GEORGE S. DERBY, Boston.
Acting Secretary—EDGAR S. THOMSON, New York.
Executive Committee—EDWARD C. ELLETT, Memphis, Tenn.; WALTER R. PARKER, Detroit; WILLIAM ZENTMAYER, Philadelphia.
(Stenographer—Dr. G. G. TAYLOR, Chicago)

Members are reminded that the meetings of the section will be called to order promptly on the hour scheduled for opening.

The formal reading of the papers will be omitted, as reprints of the papers on the program have already been delivered to members of the section.

Each essayist will be given ten minutes in which to summarize the points in his paper and introduce the discussion, and five minutes in which to close the discussion.

The member appointed to open the discussion of any paper will be allowed ten minutes. Subsequent speakers will be limited to five minutes.

The papers and all discussions will be printed and bound, forming the Transactions of the Section on Ophthalmology for 1917. Copies of the Transactions may be obtained at $1 each, if subscriptions are sent to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn Street, Chicago, by July 1, as only enough copies are printed to cover subscriptions received up to the time of going to press.

Members of the Section are requested to register in the section registration book at the entrance. The full name and complete postoffice address should be written plainly.

Wednesday, June 12—9 a. m.

1. Chairman's Address. ALEXANDER DUANE, New York.
2. Disciform Keratitis. JOHN E. WEEKS, New York.
Discussion to be opened by WILLIAM ZENTMAYER, Philadelphia.
3. The Action of Miotic Drugs on Eyes, with Incomplete Sphincter Iritis. ROBERT J. CURDY, Kansas City, Mo.
Discussion to be opened by FRANK C. TODD, Minneapolis.
4. Paralysis of the Sixth Cranial Nerve Associated with Otitis Media. JOHN M. WHEELER, New York.
Discussion to be opened by WALTER H. SNYDER, Toledo, Ohio.
5. The Relation of Hereditary Defects of the Eye to Modern Genetics and Eugenics. LUCIEN HOWE, Buffalo.
Discussion to be opened by FRANK ALLPORT, Chicago, and HAROLD H. NEWMAN, Salisbury, N. C.
6. The Rational Etiology and Satisfactory Treatment of Dacryocystitis.
WILLIAM R. THOMPSON, Fort Worth, Texas.
Discussion to be opened by HARRY W. WOODRUFF, Joliet, Ill.

Wednesday, June 12—2 p. m.

EXHIBITION OF NEW INSTRUMENTS AND APPLIANCES

7. Some Aspects of Military Ophthalmic Surgery.
GEORGE E. DE SCHWEINITZ, Philadelphia.
8. Visual Standards of the U. S. Army.
WILLIAM H. WILDER, Chicago.
9. Visual Standards of the U. S. Navy.
WILLIAM E. CARSON, Washington, D. C.
10. The Eyes of the Army. ALLEN GREENWOOD, Boston.
Discussion to be opened by HIRAM WOODS, Baltimore.
11. Maculocerebral Degeneration with Dementia.
HOWARD S. CLARK, Minneapolis.
Discussion to be opened by F. PARK LEWIS, Buffalo.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

12. Pollakiuria or Excessive Frequency of Micturition as a Functional Disturbance Due to Eyestrain.
WILLIAM W. KAHN, Detroit.
Discussion to be opened by ISAAC HARTSHORNE, New York.
13. Astigmatism Against the Rule.
JOHN GREEN and WILLIAM F. HARDY, St. Louis.
Discussion to be opened by WALTER B. LANCASTER, Boston.
14. Common Changes in Regular Astigmatism and Their Causes. EDWARD JACKSON, Denver.
Discussion to be opened by ARTHUR G. BENNETT, Buffalo.
15. Focal Infections of the Eye from the Intestinal Tract.
JAMES G. DWYER, New York.
Discussion to be opened by EDGAR S. THOMSON, New York.
16. Alterations in the Visual Fields Associated with Pellagra.
F. PHINIZY CALHOUN, Atlanta, Ga.
Discussion to be opened by EDWARD V. L. BROWN, Chicago.
17. A Study of the Histology and Pathology of the Superstructure of the Lid Occurring in Trachoma (Lantern Demonstration). EDWARD H. CARY, Dallas, Texas.
Discussion to be opened by MEYER WIENER, St. Louis.

Friday, June 14—2 p. m.

18. The Etiology of Phlyctenular Ophthalmia.
HUNTER H. TURNER, Pittsburgh.
Discussion to be opened by EDWARD B. HECKEL, Pittsburgh.
19. Postciliary Scleral Trephining for Acute Glaucoma.
ARTHUR E. EWING, St. Louis.
Discussion to be opened by EDWARD C. ELLETT, Memphis, Tenn.

20. The Treatment of Blood Cysts of the Orbit.
HAROLD GIFFORD, Omaha.
Discussion to be opened by ALBERT E. BULSON, JR., Fort Wayne, Ind.

21. The Management of Certain Intractable Lid Conditions.
MELVILLE BLACK, Denver.
Discussion to be opened by GILES C. SAVAGE, Nashville, Tenn.

22. An Operation for Cataract. Especially Adapted to Cases of Intractable Sepsis of the Conjunctiva or the Lacrimal Sac. ARTHUR E. PRINCE, Springfield, Ill.
Discussion to be opened by JOHN D. PIFER, Joplin, Mo.

23. A Method of Acquiring Cataract Technic Leading to the Smith-Indian Intracapsular.
WILLIAM A. FISHER and H. D. THORNBURG, Chicago.
Discussion to be opened by LOUIS D. GREEN, San Francisco.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN RED ROOM, HOTEL LA SALLE

OFFICERS OF SECTION

Chairman—GREENFIELD SLUDER, St. Louis.
Vice Chairman—PHILIP D. KERRISON, New York.
Secretary—L. W. DEAN, Iowa City, Iowa.
Executive Committee—NORVAL M. PIERCE, Chicago; HILI HASTINGS, Los Angeles; FRANCIS P. EMERSON, Boston.
(Stenographer—Miss F. E. DILLAN, Indianapolis)

Wednesday, June 12—9 a. m.

1. Chairman's Address: The Specialist's Relations to the American Medical Association.
GREENFIELD SLUDER, St. Louis.
2. Acromegaly of the Larynx.
CHEVALIER JACKSON, Philadelphia.
3. Certain Traumatic Lesions of the Esophagus.
THOMAS HUBBARD, Toledo, Ohio.
4. Indurative Headaches. HUGH T. PATRICK, Chicago.
5. Ocular Headaches. JOSEPH W. CHARLES, St. Louis.

Wednesday, June 12—2 p. m.

EXHIBITION OF NEW INSTRUMENTS AND APPLIANCES

6. Otolaryngology in the Army Medical Service.
NORVAL H. PIERCE, Chicago.
7. Results of Concussion of High Explosive Shells on the Ear. J. GORDON WILSON, Chicago.
8. Endoscopic Diagnosis and Treatment.
EDGAR M. HOLMES, Boston.
9. Bilateral Ankylosis of the Crico-Arytenoid Joint, with Report of a Case. THOMAS J. HARRIS, New York.
10. Amputation of the Epiglottis in Cases of Laryngeal Tuberculosis. THOMAS E. CARMODY, Denver.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

11. Anatomy of the Nasal Accessory Sinuses in Infancy and Childhood. WARREN B. DAVIS, Philadelphia.
12. Treatment of Neuralgia of the Fifth Nerve by Injection of the Gasserian Ganglion.
HENRY H. MARTIN, Savannah, Ga.
13. Surgery of the Trifacial Nerve.
JOHN F. BARNHILL, Indianapolis.
14. Anatomy of the Lateral Sinus: Its Connections and Anomalies. J. RANDOLPH PAGE, New York.
15. Two Cases of Unusual Wounding of the Lateral Sinus.
VIRGINIUS DABNEY, Washington, D. C.
16. The Etiology of Speech Disorders.
WALTER B. SWIFT, Boston.

Friday, June 14—2 p. m.

17. The Snaretome Operation for Enucleation of the Tonsil.
JACOB BRAUN, New York.
18. Diseased Faucial Tonsils: Their Toxic Infections and Reflex Effects. J. LESLIE DAVIS, Philadelphia.
19. The Clinical Pathology of the Tonsil: Its Application in Focal Infections. HARRY A. BARNES, Boston.
20. Systemic Factors in the Treatment of Acute and Subacute Sinusitis. JOSEPH A. STUCKY, Lexington, Ky.
21. The Present Status of the Operative Treatment of Chronic Frontal Sinusitis.
THOMAS W. MOORE, Huntington, W. Va.
22. The Relation of the Movements of the Head and Eyes to Labyrinth Stimulation. HENRY B. LEMERE, Omaha.

SECTION ON DISEASES OF CHILDREN

MEETS IN FLORENTINE ROOM, CONGRESS HOTEL

OFFICERS OF SECTION

Chairman—LAURENCE R. DEBUYS, New Orleans.
Vice Chairman—RICHARD M. SMITH, Boston.
Secretary—F. P. GENGENBACH, Denver.
Executive Committee—LAWRENCE T. ROYSTER, Norfolk, Va.; T. C. MCCLEAVE, Oakland, Calif.; J. P. SEDGWICK, Minneapolis.
(Stenographer—DR. HELEN J. COWIE, Philadelphia)

Wednesday, June 12—9 a. m.

1. Chairman's Address: Conservation of Child Life, a National Responsibility.
LAURENCE R. DEBUYS, New Orleans.
2. Conservation of Child Life in New Zealand.
TRUBY KING, New Zealand.
3. Infant Mortality Campaign in France.
PAUL ARMAND-DE LILLE, Paris, France.
4. Medical Work Among the Civilian Population in France.
WILLIAM PALMER LUCAS, San Francisco.
5. A Report on Children in the War Zone.
JULIUS P. SEDGWICK and N. O. PEARCE, Minneapolis.
6. Children's Year Program for Child Conservation in War Time. GRACE L. MEIGS, Washington, D. C.

Wednesday, June 12—2 p. m.

7. Clinical Supervision of the Well Baby During Its First Year. HENRY H. YERINGTON, San Francisco.
8. A Report of Three Years' Clinical Experience with the Feeding of S. A. M. (Synthetic Milk Adapted).
HENRY J. GERSTENBERGER, Cleveland.
9. Digestion of Fat by Gastric and Intestinal Ferment.
JAY I. DURAND, Seattle.
10. Pneumococcus Meningitis.
HENRY D. CHAPIN, New York.
11. A Case of Typhoid Fever with Meningismus.
COLLINS H. JOHNSON, Grand Rapids, Mich.
12. Lumbar Puncture in Meningeal Hemorrhage of New-Born.
JULES M. BRADY, St. Louis.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS.

Friday, June 14—9 a. m.

Election of Officers

13. Treatment of Prematurity.
ROOD TAYLOR, Rochester, Minn.
14. Intestinal Parasites in Children.
HARRY M. MCCLANAHAN, Omaha.
15. Human Blood as a Therapeutic Agent. in Pediatric Practice. CHARLES G. KERLEY, New York.
16. The Superior Longitudinal Sinus in Infants; Its Value in Transfusion, and for Rapid Medication; Its Adaptability in Procuring Blood for Diagnosis (Lantern Demonstration). LOUIS FISCHER, New York.
17. Purpura Abdominalis in Early Life.
WILLIAM WESTON, Columbia, S. C.
18. Hemophilia.
HARRY LOWENBURG and A. I. RUBENSTONE, Philadelphia.

Friday, June 14—2 p. m.

19. Further Report on Pertussis Vaccine Controlled by the Complement Fixation Test.
EDGAR J. HEUNEKENS, Minneapolis.
20. Cutaneous Hypersensitiveness as an Evidence of Infection, and Its Bearing on the Pathogenicity for Infants of the Bacillus Abortus-Bovinus.
EMANUEL C. FLEISCHNER and K. F. MEYER, San Francisco.
21. The Remote Results of Tonsillectomy in the Young Child.
JOHN ZAHORSKY, St. Louis.
22. Etiology and Treatment of Enuresis.
JOSEPH I. GROVER, Boston.
23. Group Medicine and Pediatrics.
CHARLES E. HANSEL, South Bend, Ind.
24. The Diagnostic Study of Conditions in the Throat Producing Dyspnea. Report of Case.
ALBERT J. BELL, Cincinnati.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN THE LADIES' PARLOR, AUDITORIUM HOTEL

OFFICERS OF SECTION

Chairman—ARTHUR D. HIRSCHFELDER, Minneapolis.
Vice Chairman—WALTER A. BASTEDO, New York.
Secretary—CARY EGGLESTON, New York.
Executive Committee—J. F. ANDERSON, New Brunswick, N. J.; R. A. HATCHER, New York; ALBION W. HEWLETT, San Francisco.
(Stenographer—Mr. J. M. CARNEY, Milwaukee)

Wednesday, June 12—9 a. m.

1. Chairman's Address: The Teaching of Pharmacology.
ARTHUR D. HIRSCHFELDER, Minneapolis.

SYMPOSIUM ON ACTIVITIES BEARING ON THE WAR

2. Pharmacology in the War.
TORALD SOLLMANN, Cleveland.
3. The Problem of Synthetic Drugs.
JULIUS STIEGLITZ, Chicago.
4. Industrial Hazards in War Time.
ALICE HAMILTON, Chicago.
5. The Chemical Control of Lice.
WILLIAM MOORE, St. Paul.

Wednesday, June 12—2 p. m.

JOINT MEETING WITH THE SECTION ON PATHOLOGY AND PHYSIOLOGY

SYMPOSIUM ON DISEASES DUE TO DEFICIENCIES IN NUTRITION

6. The "Vitamin" Hypothesis and the Diseases Referable to Faulty Diet. E. V. MCCULLUM, Baltimore.
7. The Rôle of Antiscorbutics in Our Dietary.
ALFRED F. HESS, New York.
8. Diet and Pellagra.
JOSEPH GOLDBERGER, G. A. WHEELER and EDGAR SYDENSTRICKER, Washington, D. C.
9. Diet of the U. S. Army Soldier.
JOHN R. MURLIN, Washington, D. C.
10. Civilian War Rations.
PAUL ROTH, BATTLE CREEK, MICH.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

11. On the Pharmacologic and Therapeutic Properties of Some Benzyl Esters. DAVID I. MACHT, Baltimore.
12. The Significance of Sounds Heard During the Auditory Measurement of Blood Pressure.
CLYDE BROOKS, Pittsburgh, and ALBERT M. BLEILE, Columbus, Ohio.
13. The Chemical Groups in the Active Constituent of the Thyroid Which Are Responsible for Its Physiologic Activity. E. C. KENDALL, Rochester, Minn.
14. Studies in a Case of Acute Bichlorid of Mercury Poisoning. Treated by the Newer Methods and Followed by Recovery. JACOB ROSENBLOOM, Pittsburgh.
15. A Study of the Delayed Kidney Injury Induced by Bichlorid of Mercury.
WILLIAM DEB. MACNIDER, Chapel Hill, N. C.

Friday, June 14—2 p. m.

16. The Relationship of the Strength of the Effective Stimulus and the Irritability of the Respiratory Center.
ROY G. PEARCE, Cleveland.
17. The Therapeutic Indications for the Inhalation of Oxygen.
CHARLES F. HOOVER, Cleveland.
18. Clinical Studies of a Series of Cases Presenting the Phenomena of Cholesteremia.
JOHN R. WILLIAMS, Rochester, N. Y.
19. Studies on the Valuation of Digitalis.
E. L. NEWCOMB, Minneapolis.
20. Pharmacologic Studies on Arnica.
E. D. BROWN, A. M. SMITH and A. C. JOHNSON, Minneapolis.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN THE BALL ROOM, AUDITORIUM HOTEL

OFFICERS OF SECTION

Chairman—LOUIS B. WILSON, Rochester, Minn.
Vice Chairman—FRANCIS CARTER WOOD, New York.
Secretary—ISABELLA C. HERB, Chicago.
Executive Committee—A. J. CARLSON, Chicago; F. P. GAY, Berkeley, Calif.; JAMES EWING, New York.
(Stenographer—DR. ANNA C. LANDMAN, Chicago)

Wednesday, June 12—9 a. m.

1. Chairman's Address: Necropsies in American Hospitals.
LOUIS B. WILSON, Rochester, Minn.
2. The Function of Fats in Immune Reactions.
CARL C. WARDEN, Ann Arbor, Mich.
3. A New Method of Making the Gonorrheal Complement Fixation Test. R. B. H. GRADWOHL, St. Louis.
4. A Further Consideration of Complement Fixation in Tuberculosis. V. H. MOON, Indianapolis.
5. Industrial Fatigue and the War.
FREDERIC S. LEE, New York.

Wednesday, June 12—2 p. m.

JOINT MEETING WITH THE SECTION ON PHARMACOLOGY AND THERAPEUTICS

SYMPOSIUM ON DISEASES DUE TO DEFICIENCIES IN NUTRITION

6. The "Vitamin" Hypothesis and the Diseases Referable to Faulty Diet. E. V. MCCOLLUM, Baltimore.
7. The Rôle of Antiscorbutics in Our Dietary.
ALFRED F. HESS, New York.
8. Diet and Pellagra.
JOSEPH GOLDBERGER, G. A. WHEELER and EDGAR SYDENSTRICKER, Washington, D. C.
9. Diet of the U. S. Army Soldier.
JOHN R. MURLIN, Washington, D. C.
10. Civilian War Rations. PAUL ROTH, Battle Creek, Mich.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

11. Some Observations on the Pathology of the Urine in Arteriosclerotic Kidney.
B. G. R. WILLIAMS, Paris, Ill.
12. A Further Experimental Study on Surgical Shock.
FRANK C. MANN, Rochester, Minn.
13. The Resistance of the Streptococcus Viridans to Germicidal Agents. HENRY ALBERT, Iowa City, Iowa.
14. The Relationship of Hodgkin's Disease to Lymphosarcoma. MICHAEL G. WOHL, Omaha.

SECTION ON STOMATOLOGY

MEETS IN GREEN ROOM, CONGRESS HOTEL

OFFICERS OF SECTION

Chairman—FREDERICK B. NOYES, Chicago.
Vice Chairman—HENRY S. DUNNING, New York.
Secretary—EUGENE S. TALBOT, Chicago.
Executive Committee—WILLIAM C. FISHER, New York; FREDERICK B. MOOREHEAD, Chicago; ARTHUR D. BLACK, Chicago.
(Stenographer—Miss MARGARET I. MALONEY, Chicago)

Wednesday, June 12—9 a. m.

1. Chairman's Address: Dental Lymphatic Vessels.
FREDERICK B. NOYES, Chicago.
2. An Analysis of Two Hundred Cases of Malignant Disease in the Oral Cavity Treated by Electrothermic Methods, or in Combination with Operative Surgery, Roentgen Rays or Radium.
WILLIAM L. CLARK, Philadelphia.
3. Treatment of Epithelioma of the Jaws and Cheeks, with Heat and Radium.
GORDON B. NEW, Rochester, Minn.
Discussion to be opened by ALBERT J. OCHSNER, Chicago.

Wednesday, June 12—2 p. m.

4. The Lipoids of Tumors of the Dental System.
KAETHE W. DEWEY, Chicago.
5. The Genesis of Nasmyth's Membrane, the Epithelial Débris in the Peridental Membrane and the Granular Layer of Tomes. EUGENE S. TALBOT, Chicago.
6. Additional Roentgenographic Studies of Infections of the Maxillary Bones. ARTHUR D. BLACK, Chicago.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

7. Microscopic Studies of Diseased Peridental Tissues (Lantern Demonstration).
EDWARD H. HATTON, Chicago.
8. Absorption of the Roots of Teeth (Lantern Demonstration). HERBERT A. POTTS, Chicago.
9. Neuralgia Dentalis. KURT H. THOMA, Boston.

Friday, June 14—2 p. m.

10. Longitudinal and Transverse. Sectional Views of the Accessory Sinuses of the Human Cranium, Cut Parallel and at Right Angles to the Nasal Septum (Lantern Demonstration).
GEORGE EDWARD FELL, Chicago.
11. A New Surgical Procedure for Operating in Cases of Suppurative Gingivitis, with Alveolar Involvement (Lantern Demonstration).
ARTHUR ZENTLER, New York.
12. Fractures and Dislocations of the Jaws.
CHALMERS J. LYONS, Ann Arbor, Mich.
13. Fractures of the Bones of the Face, with Complication.
VIDA LATHAM, Chicago.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN BALL ROOM, BLACKSTONE HOTEL

OFFICERS OF SECTION

Chairman—C. EUGENE RIGGS, St. Paul.
Vice Chairman—CHARLES W. HITCHCOCK, Detroit.
Executive Committee—WILLIAM W. GRAVES, St. Louis; FRANCIS X. DERCUM, Philadelphia; BERNARD SACHS, New York.
(Stenographer—Miss ADELAIDE FOLSOM, Ripon, Wis.)

Wednesday, June 12—9 a. m.

1. Chairman's Address: Some Further Considerations Concerning the Treatment of Neurosyphilis.
C. EUGENE RIGGS, St. Paul.
2. Conjugal Syphilis of the Nervous System.
ALFRED GORDON, Philadelphia.
3. The Interpretation of Negative Laboratory Findings in Syphilis, with Special Reference to Treatment.
ALBERT E. STERNE, Indianapolis.
4. Cerebral Edema Due to Pressure.
WILLIAM A. JONES, Minneapolis.
5. Motor Disturbances Resulting from Lesions of the Corpus Striatum: A Discussion of the Striospinal System and Its Relation to Motility.
J. RAMSAY HUNT, New York.
6. Carbon Monoxid Poisoning, with Report of a Case: Its Nervous and Mental Symptoms.
CHARLES W. HITCHCOCK, Detroit.

Wednesday, June 12—2 p. m.

7. Nervous and Mental Symptoms in Exophthalmic Goiter.
LEWELLYS F. BARKER, Baltimore.
8. Medical Treatment of Exophthalmic Goiter, Especially the Use of the Extract of Corpus Luteum.
HERMAN H. HOPPE, Cincinnati.
9. Pituitary Disturbance in Relation to the Psychoses of Adolescence. BEVERLY R. TUCKER, Richmond, Va.
10. Pineal Gland Neoplasms, with Report of a Case Studied Clinically and Pathologically (Lantern Demonstration).
ANDREW L. SKOOG, Kansas City, Mo.
11. The Visceral Symptomatology of Nervous Diseases.
FRANCIS X. DERCUM, Philadelphia.
12. Prognosis in Traumatic Neurosis.
WALTER F. SCHALLER, San Francisco.

Thursday, June 13—9 a. m.

13. Neuropsychiatry and the Mobilization.
Representative of the Office of the Surgeon-General, U. S. Army.
14. Neurologic Reconstruction Work in the Army.
RICHARD H. HUTCHINGS, Washington, D. C.
15. War Neuroses as a Community Problem.
FRANKWOOD E. WILLIAMS, New York.
16. The Intensive Teaching of Neurology to Members of the Medical Reserve Corps.
THEODORE H. WEISENBERG, Philadelphia.
17. The Neuropsychiatric Personnel: The Character and Make-Up of the Members of the Neuropsychiatric Division of the Medical Reserve Corps.
WALTER TIMME, New York.
18. The Interpretation of Shell Shock.
B. SACHS, New York.

Thursday, June 13—2 p. m.

Election of Officers

19. The Results of Studying the Psychosis from the Standpoint of the Clinical and Pathologic Laboratory.
HENRY A. COTTON, Trenton, N. J.
20. The Personal Equation in Psychiatry.
LAWRENCE B. PILSBURY, Lincoln, Neb.
21. The Medical Practitioner and Mental Hygiene.
H. DOUGLAS SINGER, Kankakee, Ill.
22. Treatment of Toxic and Exhaustion Psychoses.
FRANK P. NORBURY, Jacksonville, Ill.
23. Dementia Praecox: Its Diagnosis, Prognosis and Treatment. CHARLES R. BALL, St. Paul.
24. A Psychiatric Contribution to the Problem of Prison Reform. HERMAN M. ADLER, Chicago.

Friday, June 14—9 a. m.

25. The Cerebellar Gait: A Pedographic Study.
I. LEON MEYERS, Chicago.
26. Some Suggestions for More Accurate Mental Therapy in Epilepsy. L. PIERCE CLARK, New York.
27. Radiculitis: Its Diagnosis and Interpretation.
EDWARD E. MAYER, Pittsburgh.
28. Posterior Column Lesions Nonspecific.
OTTO G. FREYERMUTH, San Francisco.
29. Early Manifestations of Nervous and Mental Instability
E. BOSWORTH MCCREADY, Pittsburgh.
30. Insanity versus Mental Disease: Duty of the General Practitioner in Psychiatric Diagnosis.
ELMER E. SOUTHARD, Boston.

SECTION ON DERMATOLOGY

MEETS IN ENGLISH ROOM, BLACKSTONE HOTEL

OFFICERS OF SECTION

Chairman—HENRY H. HAZEN, Washington, D. C.
Vice Chairman—ERNEST DWIGHT CHIPMAN, San Francisco.
Secretary—WALTER J. HEIMANN, New York.
Executive Committee—HOWARD FOX, New York; HOWARD MORROW, San Francisco; HENRY R. VARNEY, Detroit.
(Stenographer—Mrs. IRENE HILTON SNYDER, Chicago)

Wednesday, June 12—9 a. m.

1. Chairman's Address: The Duties of the Dermatologist.
HENRY H. HAZEN, Washington, D. C.

SYMPOSIUM ON SKIN TUBERCULOSIS

2. Cutaneous Tuberculosis: A Survey.
SIGMUND S. POLLITZER, New York.
3. Miliary Tuberculosis of the Skin, Lichen Scrofulosum and Papulonecrotic Tuberculosis.
FRED WISE, New York.
4. Sarcoids and Erythema Induratum of Bazin.
SAMUEL E. SWEITZER and HENRY E. MICHELSEN, Minneapolis.
5. Dermatoses Possibly Related to Tuberculosis.
MAX SCHEER, New York.
6. The Too Intensive Salvarsan Treatment of Syphilis.
MEYER L. HEIDINGSFELD, Cincinnati.

Wednesday, June 12—2 p. m.

SYMPOSIUM ON SYPHILIS IN ITS ECONOMIC ASPECTS

7. Experimental Therapy in Syphilis
WADE H. BROWN and LOUISE PEARCE, New York.
8. The Handling of the Venereal Disease Problem in the Army. WILLIAM A. PUSEY, Chicago.
9. The Value of Early Diagnosis and Immediate Treatment in Preventing Neurosyphilis: Its Economic Aspects.
JOHN A. FORDYCE, New York.
10. Syphilis and Venereal Diseases as a Public Health Problem. HARRY G. IRVINE, Minneapolis.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

SYMPOSIUM ON BULLOUS DERMATOSES

11. The Etiology of Dermatitis Herpetiformis and Its Relation to Other Bullous Diseases, Especially Erythema Multiforme and Pemphigus.
MILTON B. HARTZELL, Philadelphia.
12. Pemphigus: A Clinical Study.
HERMANN GOLDENBERG and WALTER J. HEIMANN, New York.
13. The Significance of Certain Bullous Eruptions.
MARTIN F. ENGMAN and RICHARD S. WEISS, St. Louis.
14. Toxic and Bullous Drug Eruptions and the Bullous Erythemas. DAVID LIEBERTHAL, Chicago.
15. Unusual Forms of Epitheliomas of the Skin.
LLOYD W. KETRON, Baltimore.

Friday, June 14—2 p. m.

16. The Rôle of the Vegetative Nervous System in Certain Diseases of the Skin.
EDWARD H. REEDE, Washington, D. C.
17. Further Observations Concerning Dermatoses Attributed to Focal Infections.
MICHAEL L. RAVITCH and SOL A. STEINBERG, Louisville, Ky.
18. Retention of Cysts of the Mucous Membrane.
RICHARD L. SUTTON, Kansas City, Mo., and FRANK E. SIMPSON, Chicago.
19. Adenoma Sebaceum: Report of Five Cases in One Family.
JESSE B. SHELMIRE and JAMES H. BLACK, Dallas, Texas.
20. Dermatitis Lycopersicum Esculentum.
EVERETT S. LAIN, Oklahoma City, Okla.
21. A Case of Sporotirchosis.
JOSEPH S. EISENSTEADT, Chicago.
22. The Etiology of Lichen Planus.
ERNEST D. CHIPMAN, San Francisco.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

MEETS IN THE BANQUET HALL, AUDITORIUM HOTEL

OFFICERS OF SECTION

Chairman—W. S. RANKIN, Raleigh, N. C.
Vice Chairman—HAVEN EMERSON, New York.
Secretary—DON B. LOWE, Akron, Ohio.
Executive Committee—HAMPSON JONES, Baltimore; WILLIAM C. RUCKER, Washington, D. C.; OTTO P. GEIER, Cincinnati.
(Stenographer—Mr. FREDERICK H. GURTLER, Chicago)

Wednesday, June 12—9 a. m.

SYMPOSIUM ON RURAL SANITATION

1. Coordinate Responsibility of Nation, State and County in Rural Sanitation.
WATSON S. RANKIN, Raleigh, N. C.
2. State Responsibility and Aims in County Health Work.
JOHN N. HURTY, Indianapolis.
3. The Unit Development of County Health Work.
WALLER S. LEATHERS, University, Miss.

Wednesday, June 12—2 p. m.

JOINT MEETING WITH THE SECTION ON ORTHOPEDIC SURGERY

4. Military and Industrial Orthopedic Surgery.
ALBERT H. FREIBERG, Cincinnati.
5. Orthopedic Surgery in Reclaiming the Crippled Soldier.
ELLIOTT G. BRACKETT, Washington, D. C.
6. The Conservation of Man Power in the Industries.
CHARLES G. FARNUM, Peoria, Ill.
7. Conserving Industrial Man Power.
CLARENCE D. SELBY, Toledo, Ohio.
8. Responsibility of the Industrial Board and the Influence of the Medical Examiner.
CHARLES S. ANDRUS, Chicago.
9. Reconstruction Work in Industrial and Military Life.
FRANCIS PATTERSON, Harrisburg, Pa.

Thursday, June 13, 9 a. m.

Election of Officers

SYMPOSIUM ON MUNICIPAL HEALTH ADMINISTRATION

10. Municipal Health Administration: General Considerations.
ERNEST C. LEVY, New York.
11. Health Administration in Cities of Less than Twenty Thousand Population.
DONALD B. ARMSTRONG, Framingham, Mass.
12. Health Administration in Cities with a Population Between 20,000 and 100,000.
JACOB FURSTMAN, La Crosse, Wis.
13. Health Administration in Cities with a Population Between 100,000 and 500,000.
JOHN H. LANDIS, Cincinnati.

Friday, June 14—9 a. m.

SYMPOSIUM ON MILITARY HYGIENE AND PREVENTIVE MEDICINE

14. Prevention of Pneumonia. RUFUS I. COLE, New York.
15. Control of Meningitis. SIMON FLEXNER, New York.
16. Measles. EDWARD L. MUNSON, Washington, D. C.
17. Mumps. MARTHA WOLLSTEIN, New York.
18. Venereal Disease Control in the Army.
WILLIAM F. SNOW, New York, and WILBUR A. SAWYER, Berkeley, Calif.

SECTION ON GENITO-URINARY DISEASES

MEETS IN SMOKING ROOM, AUDITORIUM THEATER

OFFICERS OF SECTION

Chairman—EDWARD L. KEYES, JR., New York.
Vice Chairman—MARTIN KROTOSZYNER,* San Francisco.
Secretary—WILLIAM F. BRAASCH, Rochester, Minn.
Executive Committee—GRANVILLE MACGOWAN, Los Angeles; LOUIS E. SCHMIDT, Chicago; HUGH CABOT, Boston.
(Stenographer—Mr. DOUGLAS A. BROWN, Cincinnati)

Wednesday, June 12—9 a. m.

1. Anatomic and Pathologic Study of the Posterior Urethra (Lantern Demonstration).
E. OTIS SMITH, Cincinnati.

* Deceased.

2. The Human Seminal Vesicles at Birth, with Observations on Their Fetal Development (Lantern Demonstration). ERNEST M. WATSON, Buffalo.
Discussion on the foregoing two papers to be opened by OSWALD S. LOWSLEY, New York.

3. Why Trained Urologists Should be Employed to Treat Disease Conditions of the Posterior Urethra and the Bladder Neck (Lantern Demonstration). GRANVILLE MACGOWAN, Los Angeles.
Discussion to be opened by L. BUERGER, New York.

4. Venereal Diseases Incident to War Times. WILLIAM W. TOWNSEND, Rutland, Vt.

5. Venereal Disease in the Thirty-Ninth Division. LOYD THOMPSON, Hot Springs, Ark., and JACOB R. BOLASNY, Detroit.

Wednesday, June 12, 2 p. m.

6. "Trench Nephritis." REGINALD FITZ, Boston.

7. Renal Complications of Pregnancy from the Standpoint of the Neurologist (Lantern Demonstration). HENRY G. BUGBEE, New York.
Discussion to be opened by HERMAN L. KRETSCHMER, Chicago, and JOHN R. CAULK, St. Louis.

8. Experimental Hydronephrosis, Restoration of Function and Anatomic Repair After Relief of Obstruction (Lantern Demonstration). FRANK HINMAN, San Francisco.
Discussion to be opened by JAMES D. BARNEY, Boston.

9. Changes in the Kidney and Ureter Resulting from Renal Implantation of the Latter Into the Kidney. ANDERS PETERSON, Rochester, Minn.
Discussion to be opened by H. D. FURNISS, New York.

10. Acquired Stricture of the Lower End of the Ureter (Lantern Demonstration). ROBERT H. HERBST, Chicago.
Discussion to be opened by V. D. LESPINASSE, Chicago.

11. Simple Ulcer of the Bladder. ARTHUR B. CECIL, Los Angeles.
Discussion to be opened by WILLIAM F. BRAASCH, Rochester, Minn.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

12. New Instruments In Operative Cystoscopy. BRANSFORD LEWIS, St. Louis.

13. Pathology and Improved Method of Operating For Obstructive Lesions of the Internal Vesical Sphincter (Lantern Demonstration). LEO BUERGER, New York.
Discussion to be opened by OSWALD S. LOWSLEY, New York.

14. Surgery and Surgical Pathology of the Human Prostate Gland. OSWALD S. LOWSLEY, New York.
Discussion to be opened by H. L. KRETSCHMER, Chicago.

15. The Silent Prostate. JAMES A. GARDNER, Buffalo.
Discussion to be opened by H. L. KRETSCHMER, Chicago.

16. Radical and Palliative Operative Procedure for Carcinoma of the Prostate (Lantern Demonstration). JOHN T. GERAGHTY, Baltimore.
Discussion to be opened by GRANVILLE MACGOWAN, Los Angeles, and BENJAMIN S. BARRINGER, New York.

17. Some Cases of Retention of Urine Associated With Defects of the Sacrum; Probably Spina Bifida Occulta. ARTUR L. CHUTE, Boston.

Friday, June 14—2 p. m.

18. Treatment of Genital Tuberculosis in the Male (Lantern Demonstration). WILLIAM C. QUINBY, Boston.
Discussion to be opened by JOHN T. GERAGHTY, Baltimore, and JOHN H. CUNNINGHAM, JR., Boston.

19. Colon Bacillus Infection of the Urinary Tract. J. DELLINGER BARNEY, Boston.
Discussion to be opened by H. L. KRETSCHMER, Chicago.

20. The Significance of Bacteriuria. LOUIS E. SCHMIDT, Chicago.
Discussion to be opened by GRANVILLE MACGOWAN, Los Angeles.

21. The Diagnostic and Prognostic Value of Blood Urea in Urology. ALBERT E. GOLDSTEIN, Baltimore.
Discussion to be opened by R. B. H. GRADWOHL, St. Louis, and HENRY J. SCHERCK, St. Louis.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN ELIZABETHAN ROOM, CONGRESS HOTEL

OFFICERS OF SECTION

Chairman—ALBERT H. FREIBERG, Cincinnati.
Vice Chairman—FRED J. FASSETT, Seattle.
Secretary—HENRY B. THOMAS, Chicago.
Executive Committee—NATHANIEL ALLISON, St. Louis; RUSSELL A. HIBBS, New York; E. W. Ryerson, Chicago.
(Stenographer—Miss LULU GAY, Philadelphia)

Wednesday, June 12—9 a. m.

1. Efficient Support for Sacro-Iliac Relaxation. W. BARNETT OWEN, Louisville.
Discussion to be opened by FRED J. GAENSLEN, Milwaukee; CHARLES A. PARKER, Chicago, and JAMES W. SEVER, Boston.

2. Tendon Operation Technic. LEO MAYER, New York.
Discussion to be opened by ROBERT W. LOVETT, Boston; MARK H. ROGERS, Boston, and SAMUEL KLEINBERG, New York.

3. Loose Bodies in the Elbow Joint. MELVIN S. HENDERSON, Rochester, Minn.
Discussion to be opened by WILLIS C. CAMPBELL, Memphis; E. W. RYERSON, Chicago, and RUSSELL A. HIBBS, New York.

4. Orthopedic Operations on the Hand (Lantern Demonstration). ARTHUR STEINDLER, Iowa City, Iowa.
Discussion to be opened by JOHN L. PORTER and ALLEN B. KANAVEL, Chicago.

5. Cerebral Spastic Paraplegia. WALTER G. STERN and M. E. BLAHD, Cleveland.
Discussion to be opened by WILLIAM SHARPE, New York, and CHARLES H. FRAZIER, Philadelphia.

Wednesday, June 12—2 p. m.

JOINT MEETING WITH THE SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

6. Chairman's Address: Military and Industrial Orthopedic Surgery. ALBERT H. FREIBERG, Cincinnati.

7. Orthopedic Surgery in Reclaiming the Crippled Soldier. ELLIOTT G. BRACKETT, Washington, D. C.
Discussion to be opened by JOHN RIDLON, Chicago; JEFFERSON D. GRIFFITH, Kansas City, Mo.; JAMES T. RUGH, Philadelphia, and EMIL S. GEIST, Minneapolis.

8. The Conservation of Man Power in the Industries. CHARLES G. FARNUM, Peoria, Ill.

9. Conserving Industrial Man Power. CLARENCE D. SELBY, Toledo, Ohio.

10. Responsibility of the Industrial Board and the Influence of the Medical Examiner. CHARLES S. ANDRUS, Chicago.

11. Reconstruction Work in Industrial and Military Life. FRANCIS PATTERSON, Harrisburg, Pa.
Discussion to be opened by HARRY E. MOCK, Washington, D. C., and CHARLES G. FARNUM, Peoria, Ill.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—9 a. m.

Election of Officers

12. Disinfection of the Knee Joint. ROBERT B. COFIELD, Cincinnati.
Discussion to be opened by F. J. COTTON, Boston, and WALTER G. STERN, Cleveland.

13. Final Report of Operations for Pott's Disease.
RUSSELL A. HIBBS, New York.
Discussion to be opened by CHARLES M. JACOBS, Chicago.
14. Problem of the Artificial Arm.
DAVID SILVER, Pittsburgh.
15. The Determining of Permanent Disability in Foot Injuries.
PAUL B. MAGNUSON, Washington, D. C.
Discussion to be opened by JOHN R. RIDLON, Chicago.
16. Orthopedic Practice in Army Cantonments.
17. Isolated Disease of the Scaphoid.
CHARLES R. MCCLURE, Portland, Ore.
18. Illustrations and Demonstration of Bone-Holding Forceps (Lantern Demonstration).
ROBERT EMMETT FARR, Minneapolis.
Discussion to be opened by EMIL S. GEIST, and ARCHA E. WILCOX, Minneapolis.

Friday, June 14—2 p. m.

19. Infantile Paralysis. ROBERT W. LOVETT, Boston.
Discussion to be opened by GEORGE DRAPER, New York.
20. A Further Report of an Operation for Stabilizing the Foot and Ankle in Poliomyelitis.
FRANK E. PECHAM, Providence, R. I.
21. Poliomyelitis: Better Results Now Demanded and Obtained by Continuous Orthopedic Treatment from the Onset of the Disease. CHARLES OGILVY, New York.
Discussion to be opened by ROYAL WHITMAN, New York, HENRY W. FRAUENTHAL, New York, and WALLACE BLANCHARD, Chicago.
22. A Study of the Infantile Paralysis Problem.
CLARENCE W. EAST, Springfield, Ill.
Discussion to be opened by JOHN D. TRAWICK, Louisville, Ky., and ROBERT O. RITTER, Chicago.
23. Reconstruction of the Hip Joint in Paralytic Luxation.
ELLIS W. JONES, Los Angeles.
24. Plastic Surgery of the Hip and Its Approaches.
FREDERICK H. ALBEE, New York.
Discussion to be opened by ELLIOTT G. BRACKETT, Washington, D. C., and PHILIP H. KREUSCHER, Chicago.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN LADIES' PARLOR, AUDITORIUM THEATER

OFFICERS OF SECTION

Chairman—ANTHONY BASSLER, New York.
Vice Chairman—ALOIS B. GRAHAM, Indianapolis.
Secretary—HORACE W. SOPER, St. Louis.
Executive Committee—WILLIAM VAN V. HAYES, New York; CHARLES G. STOCKTON, Buffalo; DWIGHT H. MURRAY, Syracuse.
(Stenographer—Mr. H. C. MCDERMOTT, Milwaukee, Wis.)

Wednesday, June 12—9 a. m.

1. Chairman's Address. ANTHONY BASSLER, New York.
2. A Simplified Method of Aspirating Gastric Contents in Hypersensitive Patients. CHARLES D. AARON, Detroit.
Discussion to be opened by G. W. MCCASKEY, Fort Wayne, Ind.; JOHN P. SAWYER, Cleveland, and JOSEPH MERZBACK, Brooklyn.
3. The Possibilities of Fractional Gastric Analysis.
MARTIN E. REHFUSS, Philadelphia.
Discussion to be opened by CHARLES P. HORNER, Chicago; ARTHUR L. HOLLAND, New York; ALLEN A. JONES, Buffalo, and A. F. R. ANDRESEN, Brooklyn.
4. The Importance of Detailed Examinations of Drafted Men With Regard to Their Ability to be Soldiers.
MAX EINHORN, New York.
Discussion to be opened by SEALE HARRIS, Birmingham, Ala.; CHARLES G. STOCKTON, Buffalo, and HARLOW BROOKS, New York.
5. A Résumé of Eight Years' Original Research Work in the Etiology and Treatment of Pruritus Ani.
DWIGHT HENDERSON MURRAY, Syracuse, N. Y.
Discussion to be opened by J. M. FRICK, Toledo; CHARLES H. CHETWOOD, New York; GRANVILLE S. HANES, Louisville, Ky., and W. H. KIGER, Los Angeles.
6. The Comparative Value of Crude Ipecac and Its Alkaloids in the Treatment of Amebiasis.
SIDNEY K. SIMON, New Orleans.
Discussion to be opened by GEORGE DOCK, St. Louis; FRANK C. YEOMANS, New York; J. C. JOHNSON, Atlanta, Ga., and T. C. MARTIN, Washington, D. C.

Wednesday, June 12—2 p. m.

Election of Officers

7. Pericholecystitic Adhesions: Their Importance and Clinical Recognition. FRANK SMITHIES, Chicago.
Discussion to be opened by JOHN B. DEAVER, Philadelphia; FRANKLIN W. WHITE, Boston; MAX EINHORN, New York, and DUDLEY ROBERTS, Brooklyn.
8. The Probable Endocrinic Origin of Peptic Ulcer (Lantern Demonstration). G. A. FRIEDMAN, New York.
Discussion to be opened by FRANK C. MANN, Rochester, Minn.; JACOB KAUFMAN, New York, and WATSON W. ELDRIDGE, JR., New York.
9. The Influence of Diet on the Symptoms and Course of Pellagra. GEORGE C. MIZELL, Atlanta, Ga.
Discussion to be opened by JULIUS FRIEDENWALD, Baltimore; SIDNEY K. SIMON, New Orleans; FRANK W. FOXWORTHY, Indianapolis, and JOSEPH E. KNIGHTON, Shreveport, La.
10. The Trichomonas Hominis, An Occasional Cause of Intestinal Disturbance.
EMMETT H. TERRELL, Richmond, Va.
Discussion to be opened by JOHN L. JELKS, Memphis, Tenn.; GRANVILLE S. HANES, Louisville, Ky.; George M. NILES, Atlanta, Ga., and MARVIN H. SMITH, Jacksonville, Fla.
11. The End-Results of Operations for Cancer of the Rectum, With Suggestions for Improving Them (Lantern Demonstration). J. RAWSON PENNINGTON, Chicago.
Discussion to be opened by COLLIER F. MARTIN, Philadelphia; WILLIAM H. STAUFFER, St. Louis; JOHN M. FRANKENBERGER, Kansas City, Mo., and JAMES A. DUNCAN, Toledo, Ohio.

Thursday, June 13

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN WITH THE SECTION ON MISCELLANEOUS TOPICS

Friday, June 14—2 p. m.

12. The Origin of Pericolic Adhesions With Special Reference to Elbow Deformity of the Colon.
JEROME M. LYNCH, New York.
Discussion to be opened by JABEZ N. JACKSON, Kansas City, Mo.; JAMES C. BLOODGOOD, Baltimore; CHARLES J. DRUECK, Chicago, and J. COLES BRICK, Philadelphia.
13. The Importance of Complete Roentgen Study of the Gastro-Intestinal Tract and Gallbladder in All Obscure Abdominal Cases (Lantern Demonstration).
GEORGE E. PFAHLER, Philadelphia.
Discussion to be opened by BERTRAM W. SIPPY, Chicago; WALTER HAMBURGER, Chicago; LEO H. NEUMAN, Albany, N. Y., and ARMISTEAD C. CRUMP, New York.
14. The Apparent Relation Between Intestinal Stasis and Some Cases of Epilepsy.
WILLIAM GERRY MORGAN, Washington, D. C.
Discussion to be opened by J. RAMSAY HUNT, New York; MARTIN E. REHFUSS, Philadelphia; CURRAN POPE, Louisville, Ky., and JAMES F. MUNSON, Sonyea, N. Y.
15. Reflex Symptoms from Anal, Rectal and Sigmoidal Lesions ALFRED J. ZOBEL, San Francisco.
Discussion to be opened by T. CHITTENDEN HILL, Boston; GEORGE B. EVANS, Dayton, O.; DONLY C. HAWLEY, Burlington, Vt., and LOUIS H. ADLER, Philadelphia.
16. The Subnormal Colon.
WILLIAM M. BEACH, Pittsburgh.
Discussion to be opened by RALPH W. JACKSON, Fall River, Mass.; ARTHUR HEBB, Baltimore; JAMES A. MACMILLAN, Detroit, and JAMES A. MCVEIGH, Detroit.
17. Intestinal Obstruction: Continued Studies from Surgical Research Laboratory, New York University.
HARRY B. EISBERG and JOHN W. DRAPER, New York.

List of Exhibitors

	Exhibit Space No.
Abbott Laboratories, The, Chicago	102
Albuquerque Cham. of Com., Albuquerque	124
Allison, W. D., Indianapolis	82
Aloe Co., A. S., St. Louis, Mo., 513 Olive	56
Amb. Pneu. Splint Mfg. Co., Chicago	92A
Amer. Photo Chem. Co., Rochester, N. Y.	85
American Surg. Specialty Co., Chicago	32
Anatomik Footwear Co., The, New York	21
Armour & Company, Chicago	39
Bard-Parker Co., Inc., New York	92B
Bausch & Lomb Opt. Co., Rochester, N. Y.	23
B. B. Culture Laboratory, Yonkers, N. Y.	27
Becton, Dickinson, Rutherford, N. J.	24, 25
Berger Bros. Co., The, New Haven	75
Perhalter Health Foods Co., Chicago	22
Petz Co., Frank S., Hammond, Ind.	40, 41
Blakiston's Son & Co., P., Philadelphia	13
Borcherdt Malt Extract Co., Chicago	64
Borden's Condensed Milk Co., New York	131
Brady Co., Geo. W., Chicago	16, 17
Burdick Cabinet Co., Milton, Wis	81
Camp Co., S. H., Jackson, Mich	20
Campbell Electric Co., Lynn, Mass.	116, 117
Carnes Art. Limb Co., Kansas City, Mo.	35
Castle Co., Wilmot, Rochester, N. Y.	84
Central Scientific Co., Chicago	80
Chicago Medical Book Co., Chicago	46, 48
Chicago Surg. Elect. Co., Chicago	59, 60
Clark & Co., A. C., Chicago	26
Davis Co., F. A., Philadelphia	63
Dennos Food Sales Co., Chicago	69A
De Vilbiss Mfg. Co., Toledo	49
Earnshaw Knitting Co., Chicago	29
Eastman Kodak Co., Rochester, N. Y.	98
Fairchild Bros. & Foster, New York	(See Reader, p. 1432)
Farbwerke-Hoechst Co., New York	Table Space
Fischer & Co., H. G., Chicago	4, 5
Foregger Co., The, New York	7
General Elect. Co., Schenectady	103
General Laboratories, Madison, Wis.	104
General Optical Co., Mt. Vernon, N. Y.	10
Green & Bauer, Inc., Hartford	28
Halverson Co., Portland, Ore	50
Hanovia Chem. & Mfg. Co., The, Newark	101
Hardy & Co., F. A., Chicago	109 to 111
Heidbrink Co., Minneapolis	32
Hollister-Wilson Labs., The, Chicago	2
Horlick's Malted Milk Co., Racine, Wis.	100
Howard-Holt Co., Cedar Rapids, Iowa	31
Hynson, Wescott & Dunning, Baltimore	12
Jaeckh Mfg. Co., Cincinnati	87
Jones Tire Sales Co., Chicago	68
Johnson, Mead & Co., Evansville, Ind.	18, 19
Kaffee Hag Corp., New York	73, 74
Lea & Febiger, Philadelphia	15
Life Saving Devices Co., Chicago	58
Linen Underwear Co., The	Table Space
Lippincott Co., J. B, Philadelphia	53 to 55
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Macmillan Co., The, Chicago	6
Maltbie Chemical Co., Newark, N. J.	76
Maltine Co., The, Brooklyn	86
Matthews & Co., L. S., St. Louis, Mo.	51
McIntosh Bat. & Opt. Co., Chicago	70
Medical Protective Co., The, Ft. Wayne	79
Mellin's Food Co., Boston, Mass.	37, 38
Meyer Co., Wm., The, Chicago	65
Meyrowitz, Inc., E. B., New York	88
Mosby Co., The C. V., St. Louis, Mo.	14
Mueller & Co., V., Chicago	94 to 97
Mulford Co., H. K., Philadelphia	57
National Path. Labs., Chicago	47
Oxford Univ. Press (Amer. Branch) N. Y.	93
Radium Chemical Co., Pittsburgh	9
Rebman Co., The, New York	11
Pulvola Chemical Co., Jersey City, N. J.	130
Safety Anaesthesia App. Concern, Chgo.	83
Saunders Co., W. B., Philadelphia	43, 44
Scanlan-Morris Co., Chicago	71, 72
Sharp & Smith, Chicago	112, 113
Siebrandt Mfg. Co., J. R., Kansas City, Mo.	30
Sorensen Co., C. M., New York	62
Southworth Co., The, Troy, N. Y.	33
Standard X-Ray Co., Chicago	34, 66
Tagliabue Mfg. Co., C. J., Brooklyn	42
Taylor Instr. Co., Rochester, N. Y.	122, 123
Tetra Co., Chicago	9
Tiemann & Co., Geo., New York	69B
Thompson-Plaster Co., Leesburg, Va	3
Toledo Technical Appliance Co., Toledo	8
Truax, Inc., Chicago	125 to 129
Victor Electric Corp., Chicago	105 to 108
Vulcan Coil Co., Los Angeles	90
Wappler Electric Co., New York	118 to 121
Waukesha Hlth. Prod. Co., Waukesha	114, 115
Weder Mfg. Co., Philadelphia	91
Welch Grape Juice Co., Westfield, N. Y.	77, 78
Weissfeld Bros., New York City	67
Wilson & Wilson, Boston	52
Woolf Optical Instrument Co., New York	36
Wright Wire Co., Worcester	89
Year Book Publishers, Chicago	61

Educational Value of the Commercial Exhibit

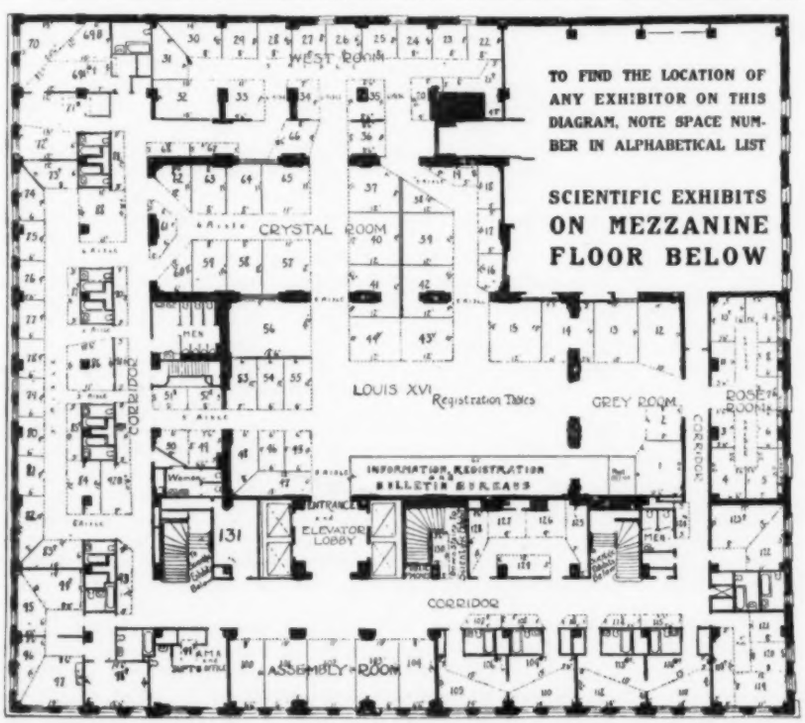
Following the trend of progress, purveyors of accessories to medical and surgical practice are watchful of the latest and most practical developments suggested to them by medical science. It is with a view of demonstrating to the visiting physician the developments of the past year, as represented in improved apparatus, instruments, pharmaceuticals, new books, etc., that over 100 firms will congregate this year in the Exhibit Hall, banquet floor, Hotel Sherman, under the auspices of the A. M. A.

The progressive physician cannot fail to appreciate the increasing scientific and educational importance of these exhibits. They bring before him just those innovations which, as a scientific and progressive member of the profession, he desires to know with a view to adapting them to his own work. After all, success in practice consists not only of a thorough and practical knowledge of medicine and surgery, but of having equipment that enables one to apply this knowledge to the best advantage. The war, naturally, has placed increased pressure upon the necessity for better methods of treatment, as well as for an increased output of medical and surgical material of both standard and improved types. The exhibit, therefore, will be of added interest to every physician, especially those who are already in or expect to enter the M. R. C.

The idea that these exhibits are for the sole fulfilment of a trade purpose may be dismissed, because nobody will be urged to buy. Everybody will be free to examine every article shown, ask questions, make suggestions and leisurely study the advantages to be derived from the combination of science and industry as applied to the manufacture of the implements of medical and surgical practice.

Every Fellow should visit the exhibits. Your presence and interest will encourage the exhibitor, and will reward him in part for the painstaking efforts and expense in preparing his display for your inspection. Do not hesitate to approach him and ask for information. Be free with your questions. Let him have your doubts or opinions.

A glance at the following descriptions of the features of some of the proposed exhibits will emphasize the fact, which has often been commented upon, that the physician here will have at his disposal the market place of the world for practically everything needed in his work. We wish it had been possible to present in this issue a brief advance description of the exhibit of every firm in the hall,



EXHIBITS, REGISTRATION, POSTOFFICE

for the benefit of those who will attend the convention. Unfortunately, however, some exhibitors were not in position to say what they would feature in their exhibits; others undoubtedly intended to supply us with this information, but delayed or overlooked doing so in sufficient time for publication.

BOOKS

A glance at the names of the publishers who will be represented readily suggests an excellent and varied showing of medical books. By spending a little time with the representatives of these Publishing Houses the conventionist can conveniently acquire in a comparatively short time a general idea of what is new and worth-while in the way of medical literature.

—Chicago Medical Book Co., Spaces 46 and 48, will exhibit a line of the latest Medical and Surgical books of all publishers, American and English, special attention being paid to War Monographs.

—Besides the usual features of their list, F. A. Davis Co., Space 63, will exhibit several important and novel publications. Notable among these will be the new DaCosta Handbook of Medical Treatment, in two handsome volumes, Geiger's "Modern Operative Bone Surgery," and a unique book on Psychiatry by Chase entitled *"The Ungeared Mind."*

—Lea & Febiger, Space 15, will submit for inspection their new books and new editions, among which will be found the following: "Thyroid Glands," a new work by Crotti; also the new Urology, in two volumes, by Cabot; Simon's "Clinical Diagnosis," new 9th edition; Cushny's "Therapeutics," new 9th edition; Aaron on the Digestive Organs, new 2d edition; Pocket Formulary, new 11th edition, and others.

—L. S. Matthews & Co., Space 51, will exhibit not only a line of up-to-date medical books of all publishers, but original editions of Beaumont, Laennec, Frost, and a number of other interesting antique volumes. Mr. Matthews will be in charge.

—The C. V. Mosby Co., Space 14, will show their complete line of new and standard publications. Among the new books shown will be Crossen's Gynecology, Sluder's Headaches and Eye Disorders, McDill's Tropical Surgery, Morse's Emergencies of a General Practice, and Luys-Wolbarst on Cystoscopy, also The Journal of Laboratory and Clinical Medicine and The American Journal of Syphilis.

—Oxford University Press, American Branch, Space 93, will show new sets, among which are the Oxford Medical Classics, consisting of seven works selected from the two hundred monographs comprising the Oxford Medical Publications; also, the Oxford Loose Leaf Surgery set with its quarterly supplementary service. Its contributors are Burghard, Kanavel, Penhallow, and other American and English authorities.

—Rebman Co., Space 11, will have as their main attraction a demonstration of the manner in which colored pictures of Skin Lesions and other pathological conditions should be prepared for medical book work.

—W. B. Saunders Co., will exhibit at Spaces 43 and 44. Besides the new editions of many of their standard publications, they will show a new three-volume work on surgery, Warbasse's "Surgical Treatment;" Harvey Cushing's "Tumors of the Acoustic Nerve and the Syndrome of the Cerebellopontile Angle," the current volume of "The Mayo Clinic," Ewing's "Neoplastic Diseases," Koll's "Diseases of the Male Urethra," and several new books of special appeal to physicians in the national service, such as Albee's "Orthopedic and Reconstructional Surgery," Mock's "Industrial Medicine and Surgery," Leo Mayer's "Orthopedic Treatment of Gunshot Wounds," the new edition of Keen's "Treatment of War Wounds," and Sir Berkeley Moynihan's "War Surgery."

—The Southworth Co., Publishers, Space 33, will feature the "American Atlas of Stereoroentgenology," "Pediatrics" by Dr. Dunn, "Tuberculin and Vaccine in Tubercular Affections" by Dr. Bonime, and "Rational Therapy" by Dr. Lerch. They will also have some works on Surgery.

—The Year Book Publishers, Space 61, will present the initial volumes of the Practical Medicine Series for 1918. The purpose of this series of Year Books is to furnish a permanent and comprehensive record, in systematic text-book form, of all that has been thought and done in recent Medicine and Surgery.

FOODS AND BEVERAGES

The producers of Foods and Beverages who will be represented in the Hall have contributed considerably toward the solution of the dietetic problems which years ago puzzled the average physician. Aside from seeing the newer preparations the visitor at these booths will gather information which can be used to advantage in every day practice.

—Borcherdt's Malt Soup Extract, the first American Malt Soup Extract to replace the German product, will be of most interest at the exhibit of the Borcherdt Malt Extract Co., Space 64. Borcherdt's Malt Sugar will also be shown. The simplicity, convenience and facility with which Dri-Malt Soup Extract and Dri-Malt Soup Extract with Wheat Flour may be used to make Malt Soup will be demonstrated.

—The Horlick's Malted Milk Co., Space 100, direct attention to the display they propose to have at the forthcoming Exhibition, where two or more representatives will be in attendance to distribute samples and furnish information regarding Horlick's Malted Milk.

—Mead Johnson & Co., Spaces 18 and 19, will exhibit Mead's Dextri-Maltose, a non-proprietary malt sugar, a highly assimilable, easily tolerated form of carbohydrate for use in infant feeding. They will also exhibit Mead's Dry Malt Soup Stock, which can be used the same as liquid malt soup.

—The Kaffee Hag Corporation at their exhibit, Spaces 73 and 74, will show the evolution of coffee from the blossom to the caffeine-free article. Kaffee Hag will be brewed and served to all visitors without charge. All are invited to register at this booth, so that a full size package may be sent to their home addresses.

—The Mellin's Food Co., Spaces 37 and 38, extend a cordial invitation to all physicians to visit their booth and become familiar with the composition of Mellin's Food and to discuss the practical application of a maltose and dextrin product as a modifier of milk, which is the subject of serious interest to all physicians.

PHARMACEUTIC AND BIOLOGIC PRODUCTS

A representation of well-known Pharmaceutical Houses with a multitude of standard products will greet the visitor this year. Much can be said of the commendable way in which these firms have striven to supply the profession with goods of quality and dependability. Their efforts in this direction we believe are universally appreciated, and merit and the cooperation of the profession.

—The Abbott Laboratories, Space 102, will exhibit the Dakin war antiseptics—Chlorazene, Chlorazene Surgical Cream, Chlorazene Surgical Powder, Dichloramine-T and Chlorcosane (Dakin's single solvent for Dichloramine-T), also Parresine, the improved wax dressing for burns, Neutral Sodium Soap, Barbital and Procaine. Moving pictures will demonstrate the technic and application of Parresine for burns, as well as the use of Parresine and Dichloramine-T.

—Armour & Co., Space 39, will exhibit a full line of organotherapeutic agents and preparation of the Endocrine Glands, showing surgical catgut ligatures and sutures of the highest quality manufactured from material selected at the source of supply.

—B. B. Culture Laboratory, Space 27, will exhibit its product, B. B. Culture, a liquid suspension of Bacillus Bulgaricus. The advantages of this preparation as a biological antiseptic in external and internal use will be explained.

—Fairchild Bros. & Foster, Space 1, will exhibit Gastron, the new entire gastric-gland extract, alcohol-free; Pepton (Bacteriological); Enemose, for colonic alimentation; Holadin, entire pancreas extract in enteric capsules; Bile Salts, the sodium glycocholate and taurocholate in their native association, separated from fresh ox gall; Fairchild Culture (and Tablet) of the Bacillus Bulgaricus, products of timely and seasonal interest.

—Farbwerke-Hoechst Co., table space, will display their American-made Salvarsan (Arsphenamine) and Novocain (Procaine). Their efforts will be directed to informing physicians regarding these and the administration of arsenical preparations. They will also display such apparatuses and chemicals as are usually employed in connection with the former products.

—Hynson, Westcott & Dunning, Space 12, will feature an interesting line of unique diagnostic apparatus and Standard Pharmaceutical Products. Their specialties are familiar to the Medical Profession, but many physicians have not seen or handled their colorimetric appliances, functional tests and suspensions for intramuscular injection. Attention will be directed to corpus luteum preparation, Lutein, bulgarian bacillus in tablet form only, and a standardized oxbile product in both tablet and capsule form. The Davis Vacuum Apparatus for automatic suprapubic drainage (new) will also be shown.

—The Maltbie Chemical Co., Space 76, will exhibit Calcreose, a new combination of calcium and creosote. The

exhibit will consist of samples of the product as contained in the original packages and also of photographs depicting the process of manufacture of Calcreose.

—H. K. Mulford Co., Space 57, aside from displaying a complete and descriptive line of Biological products, will especially feature Antipneumococcic Serum, Antimeningitis Serum, Typho Serobacterin and Hay Fever Pollen Extracts, which should be interesting to physicians, especially at the present time when so many of these products are being used at home and abroad.

—Radium Chemical Co., Space 9, will display their new flat surface, glazed face and gold back indestructible dermatological applicator and the tube applicators containing twenty-five and fifty milligrams of radium. A representative will demonstrate the theory and practice of radium application.

APPARATUS

Manufacturers of Apparatus, of all types for practically every purpose, will offer an exceptional opportunity for inspecting the newer devices that have come upon the market within the last year or so.

—W. D. Allison Co., Space 82, will exhibit their general line of physicians' furniture, including their representative styles of chairs, tables, cabinets and accessories.

—A. S. Aloe Co., Space 56, will feature Microscopes, Blood Pressure Apparatus, High Frequency Machines, Carel-Dakin Outfits, Carbon Dioxide Apparatus, Surgical Equipment, and Surgical Instruments generally.

—The exhibit of Becton, Dickinson & Co., Spaces 24 and 25, will feature B-D Fever Thermometers, Genuine Luer Syringes, Yale Quality Needles, Asepto Plungerless Syringes and Bender's Ideal Bandages.

—Wilmot Castle Co., Space 84, in addition to showing their regular line of equipment, will feature the Castle Rochester Electric Sterilizer, which is now offered mounted on a white enameled stand. Where a table is not already provided for the sterilizer this mounting has proved exceptionally convenient. On the front of the stand there is a drop shelf handy for instruments either coming out or going into the sterilizer.

—The Central Scientific Co., Space 80, will exhibit a line of electrically heated devices for the Bacteriological and Clinical Laboratory, designed by Captain A. deKhotinsky. The line includes Constant Temperature Incubators, Paraffine Ovens, Sterilizers, Wassermann Baths, Hot Staining and Fixing Apparatus, and Cremators for Inoculating Needles.

—The DeVilbiss Mfg. Co., Space 49, will interest visitors with their Theromer Wax-Sprayer as is used in the treatment of burns. They will demonstrate two different types of this instrument, and will also show a complete line of their well known nose and throat Atomers, Nebulizers and Powder Blowers for both office and prescription use.

—The Foregger Co., Inc., Space 7, will feature two Inhalers which are now under construction. They will be of interest to members of the M. R. C., as well as practicing physicians.

—The Halverson Co., Space 50, will conduct an interesting display of their sterilizers, featuring the Surgical Halverson outfit. This sterilizer has three different degrees of heat, is equipped with two red signal lights, one indicating low heat, one medium heat and both extreme heat. It can be furnished with a warmer attachment for three spray bottles or for tumbler and spray bottles.

—The Heidbrink Co., Space 32, will feature the Heidbrink Automatic Anesthetizer (surgical unit), with new Automatic Obstetrical Attachment, also Improved Heating Devices for Anesthetizer and Tank Regulators.

—Scanlan-Morris Co., Spaces 71 and 72, will exhibit a number of new articles of their own design and construction. Among a number of other articles, one of their new type Balfour Operating Tables, a new infant incubator and bed designed by Dr. Julius H. Hess, and a new physician's office and examining table will be shown.

—C. M. Sorensen Co., Inc., Space 62, will show the different models of the Sorensen Tankless Air Compressors, with demonstrations of the use of the Yankaurer outfit, during Tonsil and Adenoid Operations, also the demonstration of the Dr. L. H. Coffin Combination Sinus Apparatus.

—C. J. Tagliabue Mfg. Co., Space 42, manufacturers of High Grade Scientific Measuring instruments, will exhibit among other instruments their new "Tag-Roesch" Sphygmo-manometer. Mr. P. L. Brand, their Associate Manager, will probably have charge of the exhibit, and will give every interested visitor a demonstration of this popular Blood Pressure apparatus.

—The Taylor Instrument Co. have engaged a private room on the floor (Spaces 122 and 123) with the remainder of the exhibits, where they will be prepared to meet physicians and show them the TYCOS diagnostic products, including the Self-Verifying Sphygmomanometer, special Urinalysis Glassware, etc. At this convention will be offered their new book entitled "Blood Pressure Simplified," which has been prepared by their Medical Department and is a condensed and convenient book of information on blood pressure work.

—Toledo Technical Appliance Co., Space 8, will have their Dr. McKesson present to demonstrate the McKesson Nitrous Oxid-Oxygen Apparatus. This machine was selected by the American Red Cross for service in France.

INSTRUMENTS

The Surgical Instrument industry has been more or less handicapped since the war began by reason of the shutting off of importations. However, this has had its good effect in the increased production and development of American-made instruments. Therefore, the conventionist may be assured of a wide variety of instruments of new and improved type.

—The Bard-Parker Co., Inc., Space 92B, will exhibit the Eynard line of catheters, drains, etc., in addition to a special line of Ureteral Catheters, both regular and X-Ray, and the Bard-Parker Knife, the features of which have been repeatedly announced to our readers through the advertising columns of THE JOURNAL. An inspection of this exhibit will be well worth while.

—Frank S. Betz Co., Spaces 40 and 41, will, as usual, exhibit a line of instruments, sterilizing equipment, furniture, radiographic and electrotherapeutic apparatus and supplies, as well as a new line of diagnostic instruments introducing a number of novel features.

—V. Mueller & Co., Spaces 94 to 97, will have an extensive exhibit of instruments for every branch of surgery, including practically everything that is new in instruments and apparatus for their particular line of work; instruments for vascular surgery, electrically driven bone surgery apparatus, electrically driven anesthesia and suction apparatus. In addition there will be a complete collection of illuminating and exploring instruments for use in every cavity of the body.

—Sharp & Smith, Spaces 112 and 113, will exhibit their latest and most improved designs of instruments, including many new patterns, and will demonstrate many new items.

—The exhibit of George Tiemann & Co., Space 69B, will contain many new and interesting instruments of their high grade steel specialities, also the Flagg anesthetic apparatus, Forbes electric aspirator, Kemp Proctoclysis apparatus, Ideal electric ophthalmoscope, Tiemann aural suppression apparatus, Paraffin theromer and Baumanometer.

—Truax, Spaces 125 to 129, will exhibit a line of surgical instruments, physicians' supplies with special reference to office equipment, also a line of sundries. In other words, everything that a physician uses, either for himself or for his patient, will be displayed.

ELECTRO-MEDICAL APPARATUS AND DIAGNOSTIC EQUIPMENT

Scientific developments in Electrotherapy have contributed new types of equipment, that may be seen at the booths of the firms listed under this classification. Advances have also been made in the construction and variety of Electrical Diagnostic equipment.

—The American Surgical Specialty Co., Space 32, will exhibit a line of Electrically Lighted Diagnostic and Operating Instruments covering the field of Oral and General Surgery. A special feature will be the demonstration of a surgically clean and perfectly cool diagnostic lamp and the adaptation of standard lamps and batteries to the every day necessities of the active practitioner.

—The Chicago Surgical Electrical Co., who will occupy Space 59-60, are going to display a new Laboratory Table, which they claim will solve many of the problems now confronting the physician, who wishes to do his own laboratory work. They promise a "working" exhibit, which should prove interesting to the visiting physician.

—Hanovia Chemical and Mfg. Co., Space 101, will show in operation some highly developed therapeutic apparatus for application of ultraviolet rays, among which will be featured the Kromayer and Heraeus Sun Lamps. It will be to the advantage of the visiting physician to see this exhibit and investigate the usefulness of this line of equipment as applied to his work.

—The Weder Mfg. Co., Space 91, will exhibit their De Lyte Surgeon. In con-

junction with this will be their Simplex Surgeon Emergency Surgical Case. The Wistamponade will also be an interesting demonstration.

X-RAY EQUIPMENT

Physicians who do x-ray work will be much interested in the new and improved types of equipment which will be offered for inspection. Demonstrations in the use of x-ray and high frequency apparatus to meet all requirements will be given. These exhibits will, undoubtedly, give evidence of the progressive spirit and willingness on the part of the manufacturers to cooperate with the medical profession in producing superior apparatus to meet the demands of scientific up-to-date roentgenology.

—The American Photo Chemical Co., Space 85, will demonstrate their Diagnostic X-Ray Plates. Every physician who does x-ray work will be interested in this exhibit and is urged to witness the demonstrations that will be given.

—Geo. W. Brady & Co. will exhibit in Spaces 16 and 17 some curious and interesting X-Ray plates, and dental films, also developing tanks, intensifying screens, dental film mounts, and various X-Ray specialties. Cellosilk, a new surgical dressing material, will also be shown in various forms.

—The Eastman Kodak Co., Space 98, will have an exhibit which will appeal to the modern roentgenologist. Darkroom equipment and aids to better photography will be exhibited.

—H. G. Fischer & Co., Spaces 4 and 5, will have an array of Electrical Treatment Equipment, Combination Equipment, featuring such valuable modalities as X-Ray, Diathermy, d'Arsonval, High Frequency, Cautery, Sinusoidal, Tankless Compressed Air, etc., X-Ray Tube Stands, X-Ray Tubes of all kinds.

—The Wm. Meyer Co., Space 65, will show as items of special interest, its Multoscope, an apparatus combining a stereoradiographic table, vertical, horizontal and angular radioscope and tube stand, with several exclusive features, also a new Klinoscope for vertical, horizontal and angular fluoroscopy.

—The Standard X-Ray Co., Spaces 34 and 66, will exhibit the three types of Standard Interrupterless Transformers together with all of their accessories. Their main attraction, however, will be the new Standard Radiographic, Stereoscopic and Combination Fluoroscopic Tilt Table. This will be its first presentation to the medical profession.

—The Victor Electric Corporation, Spaces 105 to 108, will have on exhibition a representative line of modern X-Ray, Electro-Medical and Physical Therapeutic Apparatus. Roentgenologists will find it of interest to look over this exhibit for new and useful suggestions.

—The Vulcan Coil Co., Space 90, will exhibit models of moderate priced Vulcan X-Ray and High Frequency Treatment Apparatus. Attention is directed to their sectional apparatus, so designed that the Roentgen-Ray Machine is used as a base and treatment units may be added as required.

—Wappler Electric Co., Spaces 118 to 121, inclusive, will exhibit the Bellevue Model X-Ray machine, Auto Transformer Control with 100 steps, Auto Transformer 20 step rheostats; a new Coolidge Filament Transformer, High Frequency apparatus known as the Telatherm, Telatherm Jr., Army size, also Genito-Urinary instruments, such as the new Buerger Universal Urethrascope and the convertible double catheterizing and operating Cystoscope.

OPTICAL GOODS

The Government's large demand for lenses has had its effect upon the optical trade, but not so strongly as to deny the medical profession of this country to any appreciable extent the required quantities of optical goods. There will be a good representation of optical firms at the meeting, and it will, undoubtedly, be to the interest of the physician to visit these exhibits.

—Bausch & Lomb Optical Co., Space 23, will demonstrate their FFS-8 Microscope of high precision, APS Microscope, portable form, Model B Baloptiicon, for projection of lantern slides for educational work, Centrifuge, for field work, Ophthalmic Test Frame and Lenses designated in Vertex Refraction, Keratometer, Exophthalmometer, Interpupillary Distance Gauge and Corneal Microscope.

—The General Optical Co., Space 10, will show the Universal Ophthalmometer, Hare Automatic Self Registering Perimeter, as well as a full line of Genothalmic Instruments for the busy oculist.

—F. A. Hardy & Co., Spaces 109 to 111, will exhibit a line of eye, ear, nose and throat surgical instruments and ophthalmological devices. Among the new surgical instruments to be shown are the new Mouth Gag devised by Dr. Frank Allport, Dr. O. J. Stein's Tonsil Snare, and some new Frontal Sinus instruments devised by Dr. Otto Freer.

—E. B. Meyrowitz, Inc., Space 88, will demonstrate a new test type cabinet arranged for operation from the examiner's station and affording four changes of test types. The mechanism is entirely mechanical, there being no electrical parts requiring renewal or attention. A Peters Campimeter, Herbert Ocular Muscle Test, a complete line of electrically lighted operating instruments and a new operating lamp will also be shown.

—Woolf Optical Instrument Co., of New York City, Space 36, will show a complete line of ophthalmic equipment including useful aids for the scientific refractionist. They will feature the Skioptometer with its new automatic cylinder attachment. Scientific demonstrations will be cheerfully given.

ORTHOPEDIC AND SUPPORTIVE APPLIANCES

The exhibits of these firms cover a wide range, all of importance to the specialist and the general practitioner.

—Ambulatory Pneumatic Splint Mfg. Co., Chicago, Space 92A, will demonstrate the Ambulatory Pneumatic Splint, also its adaptability for the reduction of a fracture of the hip, thigh, leg or ankle, and treatment of the patient, both in and out of bed, as soon as applied. The company will also show various styles of their Ambumatic Binders, and other surgical and corrective orthopedic appliances.

—Anatomik Footwear Co., Space 21, will demonstrate Anatomik shoes for the prevention and relief of foot troubles of men, women, and children.

—The Berger Brothers Co., Space 75, will demonstrate the Spencer Rejuveno Supports for enteroptosis, Sacro-Iliac Strain, Hernia, post-operative and maternity supports, Corsets for women, belts for men. The Spencer system of designing a special support for each separate patient so as to meet the patient's individual needs will be explained.

—Carnes Artificial Limb Co., Space 35, will give practical demonstrations of their artificial hands and arms. Each of the demonstrators has had one or both arms amputated, which have now been replaced by the Carnes Arm. The men will be glad to demonstrate how practical a mechanical arm may be.

—The Tetra Co., Space 9, will demonstrate the well known Tetra Bandage. The Tetra figure, showing the various purposes of the Bandage, will be represented on colored glass, lighted. Physicians attending the demonstration will receive samples.

—The Wright Wire Co., Space 89, will show the application of Excelsior Universal Wire Gauze Splint which has been responsible for a marked advance in the treatment of fractures both in America and Europe.

MISCELLANEOUS

Under this classification are the firms whose products or service cannot well be listed under any of the foregoing classifications.

—Realizing that it would be of interest to conventionists, the Albuquerque Chamber of Commerce has determined to use their space (124) as a bureau for the dissemination of information concerning health and climatic conditions in the Southwest. The booth will be in charge of a member of the Chamber of Commerce who is conversant with health and other conditions in New Mexico.

—At the exhibit of the Earnshaw Knitting Co., Space 29, their nurses will demonstrate on models the pinless and buttonless method of dressing the baby. Physicians who in their practices have occasion to consult with the mother as to the correct clothing for infant and child will be benefited by seeing this demonstration.

—The Flaxal Pure Linen Mesh and the Wallace French Linen Underwear will be exhibited by The Linen Underwear Co., Greenwich, N. Y. This underwear is of knitted cloth designed as proper, hygienic, and comfortable underwear.

—The National Pathological Laboratories, of Chicago, New York and St. Louis will occupy Space 47, where will be given practical demonstrations of modern and up-to-date laboratory work, such as the complement fixation tests for syphilis and gonorrhea. Modern bacteriology showing aerobic and anaerobic cultures and different organisms under the microscopes, also tissue diagnosis showing sectioning and microscopical exhibits.

—The exhibit of Weissfeld Bros., Space 67, will show up-to-date and improved hospital clothing. Useful souvenirs will be given to all who call to inspect this exhibit.